

2

DTIC HALF COPY

AD-A225 482

**A Compass in Need of Alignment
Does United States Air Force Fighter Doctrine
Adequately Cover Contingency Operations?**

**A Monograph
by
Major Kimble D. Stohry
USAF**

DTIC
ELECTE
AUG 21 1990
S D D



**School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas**

First Term AY 89-90

Approved for Public Release; Distribution is Unlimited

90-3176

90 08 20 030

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION / AVAILABILITY OF REPORT Approved for Public Release: Distribution Unlimited	
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE				
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION School of Advanced Military Studies, USACGSC		6b. OFFICE SYMBOL (If applicable) ATZL-SWZ	7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State, and ZIP Code) Ft Leavenworth, KS 66027			7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING / SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS	
			PROGRAM ELEMENT NO.	PROJECT NO.
11. TITLE (Include Security Classification) A Compass in Need of Alignment? Does USAF Fighter Doctrine Adequately Support Contingency Operations? (Unclassified)				
12. PERSONAL AUTHOR(S) Major Kimble D. Stohry, USAF				
13a. TYPE OF REPORT Monograph		13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Year, Month, Day) 89 Dec 13	15. PAGE COUNT 77
16. SUPPLEMENTARY NOTATION				
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number) USAF Fighter Doctrine, Operational continuum, Low intensity conflict, Special operations, tactical doctrine. (CIP)	
FIELD	GROUP	SUB-GROUP		
19. ABSTRACT (Continue on reverse if necessary and identify by block number) <p>This monograph examines USAF fighter doctrine as it applies to contingency operations. The monograph briefly analyzes joint doctrine to describe a model of the operational continuum. This provides a basis to study doctrine covering military operations short of war which include contingency operations. The study then examines coverage of contingency operations in joint and USAF doctrinal definitions. These definitions help establish criteria to evaluate the three levels of USAF doctrine - basic, operational, and tactical. The monograph then focuses on common threads in previous contingency operations to gain doctrinal insight for the future.</p> <p>The study concludes that USAF doctrine for contingencies needs maintenance at all levels to adequately cover contingency operations. USAF tactical level doctrine needs emphasis on fighter support of conventional and special operations forces in contingency operations. USAF operational level doctrine is too outdated to meet an air component commander's needs. USAF basic level doctrine needs adjustment to incorporate joint doctrinal definitions and concepts that shape employment of military operations across the operational continuum.</p>				
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION	
22a. NAME OF RESPONSIBLE INDIVIDUAL Major Kimble D. Stohry		22b. TELEPHONE (Include Area Code) 913-682-6115	22c. OFFICE SYMBOL ATZL-SWZ	


SCHOOL OF ADVANCED MILITARY STUDIES

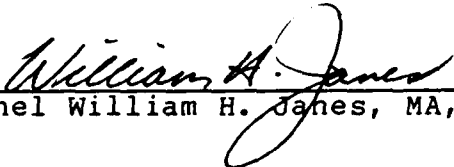
MONOGRAPH APPROVAL

Major Kimble D. Stohry, USAF

Title of Monograph: A Compass In Need of Alignment: Does
United States Air Force Fighter
Doctrine Adequately Cover Contingency
Operations?

Approved by:


Lieutenant Colonel John P. Dunigan, MA Monograph Director


Colonel William H. Jones, MA, MMAS Director, School of
Advanced Military
Studies


Philip J. Brookes, Ph.D. Director, Graduate
Degree Program

Accepted this 26th day of March 1990

ABSTRACT

A COMPASS IN NEED OF ALIGNMENT--DOES UNITED STATES AIR FORCE (USAF) FIGHTER DOCTRINE ADEQUATELY COVER CONTINGENCY OPERATIONS? by MAJ Kimble D. Stohry, USAF, 35 pages.

This monograph examines USAF fighter doctrine as it applies to contingency operations. The monograph briefly analyzes joint doctrine to describe a model of the operational continuum. This provides a basis to study doctrine covering military operations short of war which include contingency operations. The study then examines coverage of contingency operations in joint and USAF doctrinal definitions. These definitions help establish criteria to evaluate the three levels of USAF doctrine - basic, operational, and tactical. The monograph then focuses on common threads in previous contingency operations to gain doctrinal insight for the future.

The study concludes that USAF doctrine for contingencies needs maintenance at all levels to adequately cover contingency operations. USAF tactical level doctrine needs emphasis on fighter support of conventional and special operations forces in contingency operations. USAF operational level doctrine is too outdated to meet an Air Component Commanders needs. USAF basic level doctrine needs adjustment to incorporate joint doctrinal definitions and concepts that shape employment of military operations across the operational continuum.

Accession For	
NTIS	USAF
DTIC	TAB
Unannounced	
Justification	
By	
Distribution	
Availability Codes	
Dist	Avail and/or Special
A-1	

TABLE OF CONTENTS

I.	Introduction.	1
II.	The Need for Doctrine	2
III.	Doctrine	4
IV.	Historical Evidence	21
V.	Conclusion.	33

Appendixes:

A.	Definitions.	A-1
----	----------------------	-----

Endnotes	ENDNOTE-1
--------------------	-----------

Bibliography	BIBLIOGRAPHY-1
------------------------	----------------

Introduction

Fighter aircraft have flown in many military operations short of war since Vietnam. Most of these missions were in support of contingencies requiring the swift, effective use of the military instrument of power. These missions were very similar to war, but the planning factors and rules of engagement (ROE) for contingency operations were different from wartime missions.

The purpose of this monograph is to determine if United States Air Force (USAF) fighter doctrine adequately supports contingency operations. A definition and short outline of the doctrine development process will precede an analysis of current doctrinal definitions covering contingency operations - both joint and USAF. (1) [Appendix 1 contains definitions of terms cited but not specifically defined in the text of the monograph.]

Following this is an introduction of a model to illustrate the role of doctrine in the "operational continuum." Using the previous analysis and the operational continuum model, the study establishes criteria to evaluate USAF doctrine. This monograph investigates three levels of USAF doctrine - basic, operational, and tactical. As an analytical framework to test the merits of USAF doctrine, six contingency

operations are reviewed. This monograph concludes by discussing implications and offering recommendations concerning doctrinal improvement for contingency operations:

All echelons of command and all Air Force members are responsible for critically evaluating existing doctrine, as well as recommending needed modifications and, when necessary, proposing new doctrine. <2>

This monograph examines USAF fighter doctrine in light of that obligation.

The Need for Doctrine

Contingencies are a part of military operations short of war which include all military actions conducted during peacetime competition, conflict, and the transition to war. <3> War is "sustained armed conflict between nations" which can be "limited or general, but whose purpose is to achieve vital national objectives." <4> There is a general state that is neither peace nor war. That general state is conflict.

Joint Chiefs of Staff (JCS) Publication (Pub) 1, Dictionary of Military and Associated Terms, defines conflict as:

An armed struggle or clash between organized parties within a nation or between nations in order to achieve limited political or military objectives. While regular forces may be involved, irregular forces frequently predominate. Conflict is often protracted, confined to

a restricted geographic area, and constrained in weaponry and level of violence. In this state, military power in response to threats may be exercised in an indirect manner while supportive of other elements of national power. Limited objectives may be achieved by the short, focused, and direct application of force. <5>

The application of this force occurs during contingencies.

National disasters, acts of terrorism, and subversion can develop into contingency operations. <6> The military, as an instrument of national power, must prepare for contingencies. <7> Publishing executable doctrine is one step in the preparation process. Military forces guide their actions in support of national objectives through doctrine, which focuses on "fundamental principles that are authoritative but require judgment in application." <8>

JCS Pub I defines joint doctrine as "fundamental principles that guide the employment of forces of two or more services in coordinated action toward a common objective." <9> Aerospace doctrine must be in conformity with joint doctrine since it guides the proper use of aerospace forces in joint military action. Air Force Manual (AFM) 1-1, Basic Aerospace Doctrine, "provides broad, enduring guidance on how Air Force forces are organized, prepared and employed." <10> The USAF bases aerospace doctrine on combat experience, updated through the continual analysis of changing

threats, weapons systems, training, and their combined effect on roles and missions.

Dr. I. B. Holley summarized the main points of this issue in his Harmon Memorial Lecture in Military History at the Air Force Academy in March 1974:

Doctrine is like a compass bearing, it gives us the general direction of our course. We may deviate from that course on occasion, but the heading provides a common purpose to all who travel along the way. <11>

We will now examine the current state of USAF doctrine.

Doctrine

This section introduces a model of the operational continuum and then examines USAF doctrine. AFM 1-1 states, "Our military forces must be capable of achieving victory across a wide spectrum of conflict or crisis. This spectrum is a continuum defined by a magnitude of the desired objectives." <12>

In understanding the operational continuum, one must investigate "emerging" joint doctrine. Emerging doctrine is that which is in some form of draft or test stage not yet published. <13> JCS Pub 3-0, Doctrine for Joint Operations, now in Final Draft, defines the operational continuum that AFM 1-1 briefly describes. <14>

The operational continuum is "a range of operations

in ascending levels of hostility and occurring within three general states - peacetime competition, conflict and war." <15> To visualize this continuum, LTC Tom Smith (USA), a joint doctrine writer at the US Army Command and General Staff College, designed the model in Figure 1. <16>

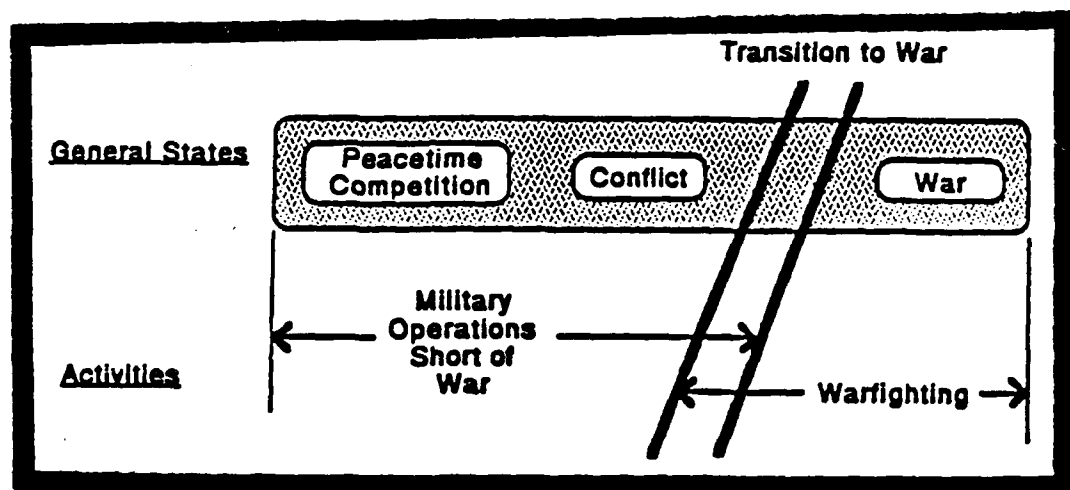


FIGURE 1: THE OPERATIONAL CONTINUUM

Several terms on the model require definition. Peacetime competition is a "non hostile state wherein political, economic, psychological, and military measures, short of U.S. combat operations or active support to warring parties, are employed to achieve national objectives." <17> Also, transition to war is a state where commanders transition from the states of

peaceful competition or conflict, to war. (18)

Based on the model there are three general states where military operations short of war occur - peacetime competition, conflict, and the transition to war. There are two general states where warfighting occurs, the transition to war and war. Warfighting is not a defined term in Websters II or JCS Pub 1. For this monograph warfighting is defined as combat actions or missions performed during the state of war. (19)

Emerging joint doctrine also describes three levels of war - strategic, operational, and tactical. (20) At the tactical level, units or task forces focus military power by executing missions. A mission is "a duty assigned to an individual or unit." (21) To visualize the operational continuum and the three levels of war, see the model in Figure 2.

The sword illustrates the instrument of military power which the National Command Authority (NCA) wields. Of the three levels, the tactical level is the most focused. Command, control, and communications procedures outlined in JCS Pub 2, Unified Action Armed Forces (UNAAF), connect all levels. The model shows three distinct levels for clarity. In reality it can be difficult to distinguish between the operational and tactical levels of war. Clear doctrine aids division of responsibility at each level. All three levels

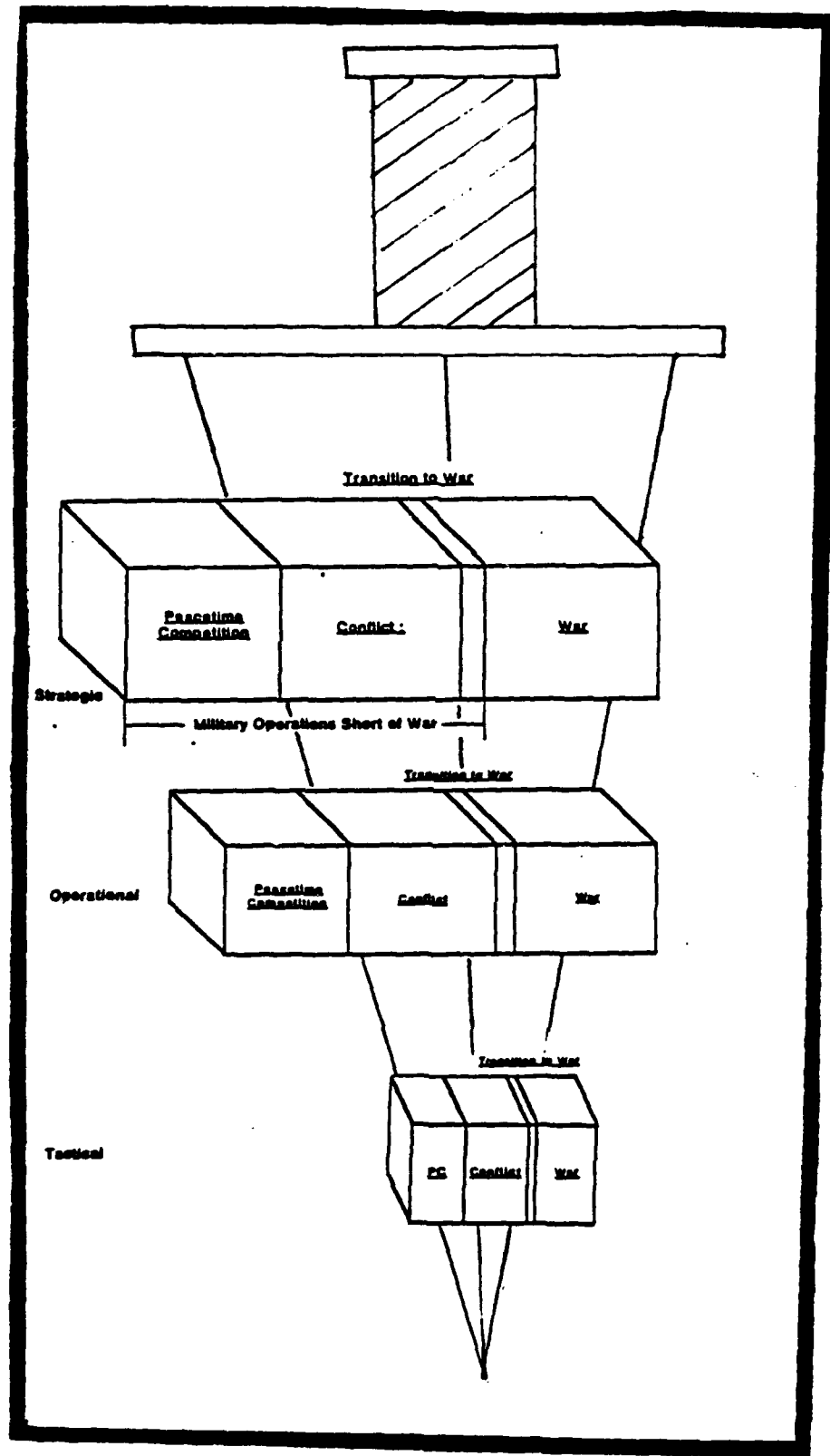


FIGURE 2: THE OPERATIONAL CONTINUUM AND LEVELS OF WAR

combine to focus the direct application of military force tactically.

Most Air Force Officers would think of these contingency operations only on the tactical level as missions. But, all contingencies also have strategic and operational impacts. <22> Tactical Air Force missions include:

- Counter Air
- Air Interdiction
- Close Air Support
- Special Operations
- Airlift
- Aerospace Surveillance
and Reconnaissance
- Aerospace Maritime Operations

"These missions can produce specific effects and influences in deterring war, defending the US, and conducting warfare." <23> AFM 1-1 mentions that air forces should be capable of achieving victory across a wide spectrum of conflict or crisis. These Air Force missions are planned, directed, and executed across the operational continuum at all three levels of war. <24>

To support these tactical missions there are a number of specialized tasks which "enhance the execution and successful completion of Air Force" and "other service missions." Air Force specialized tasks include: <25>

Aerial Refueling
Electronic Combat
Warning; Command, Control, and
Communications (C3)
Intelligence
Aerospace Rescue and Recovery
Psychological Operations
Weather Service

Air Force tactical missions and specialized tasks can support contingency operations. <26> In concept, conventional and special operations forces will coordinate at the joint task force (JTF) level on contingencies. <27> It's now important to define terms because conflict, specifically low intensity conflict (LIC), does not equal special operations. JCS Pub 1 will soon define LIC as:

Political-military confrontation between contending states or groups below conventional war and above the routine, peaceful competition among states. It frequently involves protracted struggles of competing principles and ideologies. Low intensity conflict ranges from subversion to the use of armed force. It is waged by a combination of means employing political, economical, informational, and military instruments. Low intensity conflicts are often localized, generally in the Third World, but contain regional and global security implications. <28>

Special Operations are:

Operations conducted by specially trained, equipped, and organized DOD forces against strategic or tactical targets in pursuit of national military, political, economic, or psychological objectives. These operations may be conducted during periods of peace or hostilities. They may support conventional operations, or they may be

prosecuted independently when the use of conventional forces is either inappropriate or infeasible. <29>

By definition, special operations cover the entire operational continuum at all levels of war (See Figure 3). In contrast, LIC (sans insurgency) covers only the general states of conflict and transition to war. This distinction is important in determination of future concepts of employment for tactical forces. In an era of declining budgets, services will accomplish their current missions with fewer resources. As an example, what are the requirements of the USAF for A-10s in support of LIC? <30>

The A-10 is generally thought of as a single mission aircraft, close air support (CAS). Aircraft, Air Force missions, and the general states where they fly are different entities. Employment scenarios used in decision making should span the operational continuum. This allows assessment of different possibilities. Concepts of future employment should guide decisions on which aircraft to buy, retain, or phase out. Therefore doctrine and definitions will affect future decisions on weapons systems. Unfortunately that does not solve the doctrinal problems posed by contingencies.

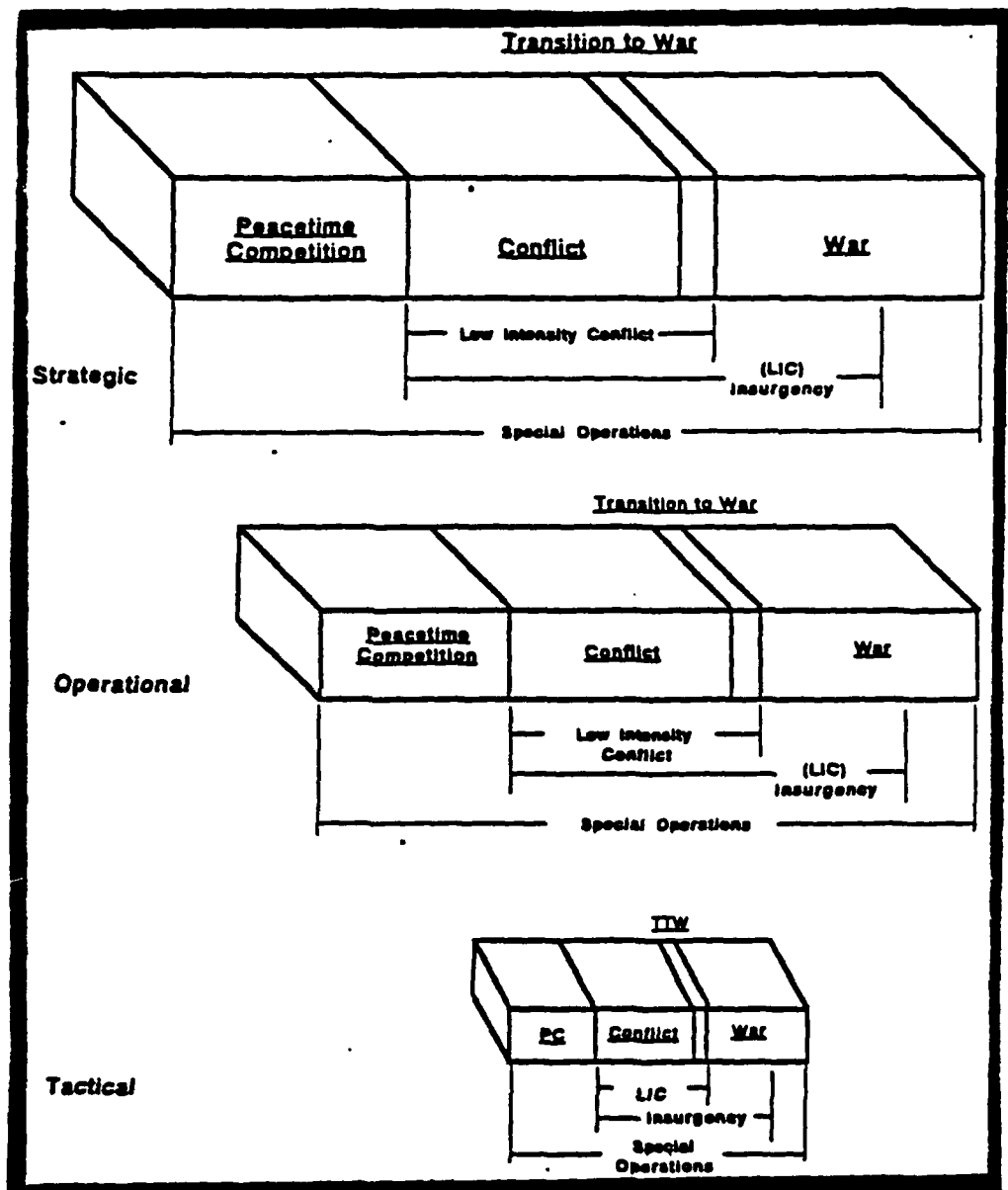


FIGURE 3: LIC VS SPECIAL OPERATIONS IN THE OPERATIONAL CONTINUUM

For example, the initial draft of JCS Pub 3-07, Doctrine for Joint Operations In Low Intensity Conflict, describes four categories of military activities in LIC - insurgency and counterinsurgency, combatting terrorism (CT), peacekeeping, and peacetime contingency operations (PCOs). <31> Is CT a special operation, a contingency operation, or both? This is an important question because the type of operation dictates the type of forces employed. CT missions involving primarily special operations forces can require conventional fighter support in emergency situations. Also contingency operations can employ fighters and special operations forces together in a JTF to combat terrorism. <32>

State sponsored terrorists like Hezbollah hold American hostages and threaten to seize more. Future contingency operations concerning state sponsored terrorism are possible. Such contingencies could involve joint conventional and special operations forces. Where penetration of hostile airspace is a problem, these operations could include fighters. <33>

By definition LIC and special operations are discrete entities. <34> LIC is an environment and special operations are activities. Contingency operations can require the employment of conventional and special operations forces in more environments than just LIC. <35> To help illustrate this problem, consider a hypothetical terrorist situation involving Hezbollah.

A plausible scenario might involve Iranian sponsored, Syrian trained, Lebanese based Hezbollah terrorists who hijack an American airliner from Rome to Libya. The terrorists immediately kill two American servicemen on board. Then they threaten to try the hostages in an Islamic court. Their demands are:

- a) Free Fawaz Youris, a convicted Shiite terrorist in a U.S. jail.
- b) The U.S. immediately stop all its arms sales to Israel.

There are several options available in handling this situation. <36> One option could be a contingency operation including airstrikes against a state sponsor of the terrorism, like Iran, Libya, or Syria. In this case a JTF will normally be formed. <37>

Operationally, the theater Commander in Chief (CINCPAC) directs JTF mission execution after receiving execution approval from the NCA. <38> JCS Pub 1 defines an airstrike as:

An attack on specific objectives by fighter, bomber, or attack aircraft on an offensive mission. May consist of several air organizations under a single command in the air.

Compare this with a raid:

An operation, usually small scale, involving a swift penetration of hostile territory to secure information, confuse the enemy, or to destroy his installations. It ends with a pre-planned withdrawal upon completion of the assigned mission.

Now reference the current definition of a strike: 'An attack which is intended to inflict damage on, seize, or

destroy an objective." <39>

The terminology is not pedantic. Raids are shorter and smaller in scale than strikes. Either can be executed or supported by a variety of aircraft including fighters. Today's raid can become tomorrow's strike if necessary. Names of operations imply the type of mission executed at the tactical level. AFM 1-1 states that: "Virtually all aerospace forces have the potential for employment in special operations" [implies contingency operations, also]. <40> I assert that the sentence should read, "for tactical employment in any military operation in any general state of the operational continuum." Basic aerospace doctrine requires that flexibility. <41> I assume that pilots can fly combat missions in any general state of the operational continuum in support of any force. That assumption should be the foundation of USAF doctrine. This analysis establishes the criteria for further examination of USAF doctrine concerning fighter operations in contingencies.

The criteria for examining USAF fighter doctrine in contingencies are as previously cited, services must prepare for contingency operations to include alignment of service doctrine with published joint doctrine. Therefore USAF doctrine must cover contingency operations. Also, current joint doctrine expects fighter airstrike support of both conventional and

•

•

special operations forces in contingencies. Therefore USAF doctrine should address these situations.

Air Force doctrine has three levels: basic (1-series manuals), operational (2-series manuals), and tactical (3-series manuals). AFM 1-1 is USAF basic doctrine. AFM 1-1 covers the broad strategic level of war and provides the framework for development of USAF operational and tactical doctrine. <42> Figure 4 shows the author's view of aerospace doctrine. Theoretically, each level of aerospace doctrine should include the entire operational continuum.

Different staffs develop the three levels of Air Force doctrine. Air Force basic doctrine is the responsibility of HQ USAF/XCXWD (Doctrine Directorate at Air Staff) and Air University (through the Air University Center for Doctrine, Research, and Education (AUCDRE)). Usually, USAF Major Commands (MAJCOMS) are the lead commands for development of operational and tactical level doctrine. Air Force Regulation 1-2 requires periodic review of basic doctrine and annual review of operational and tactical level doctrine. <43> As a result of the Joint Doctrine Master Plan, future USAF doctrine will incorporate joint doctrine and joint tactics, techniques, and procedures (JTTP) at all levels. <44> AFM 1-1 does not specifically address contingency operations. The manual recognized that a continuum exists which includes conflict and crises.

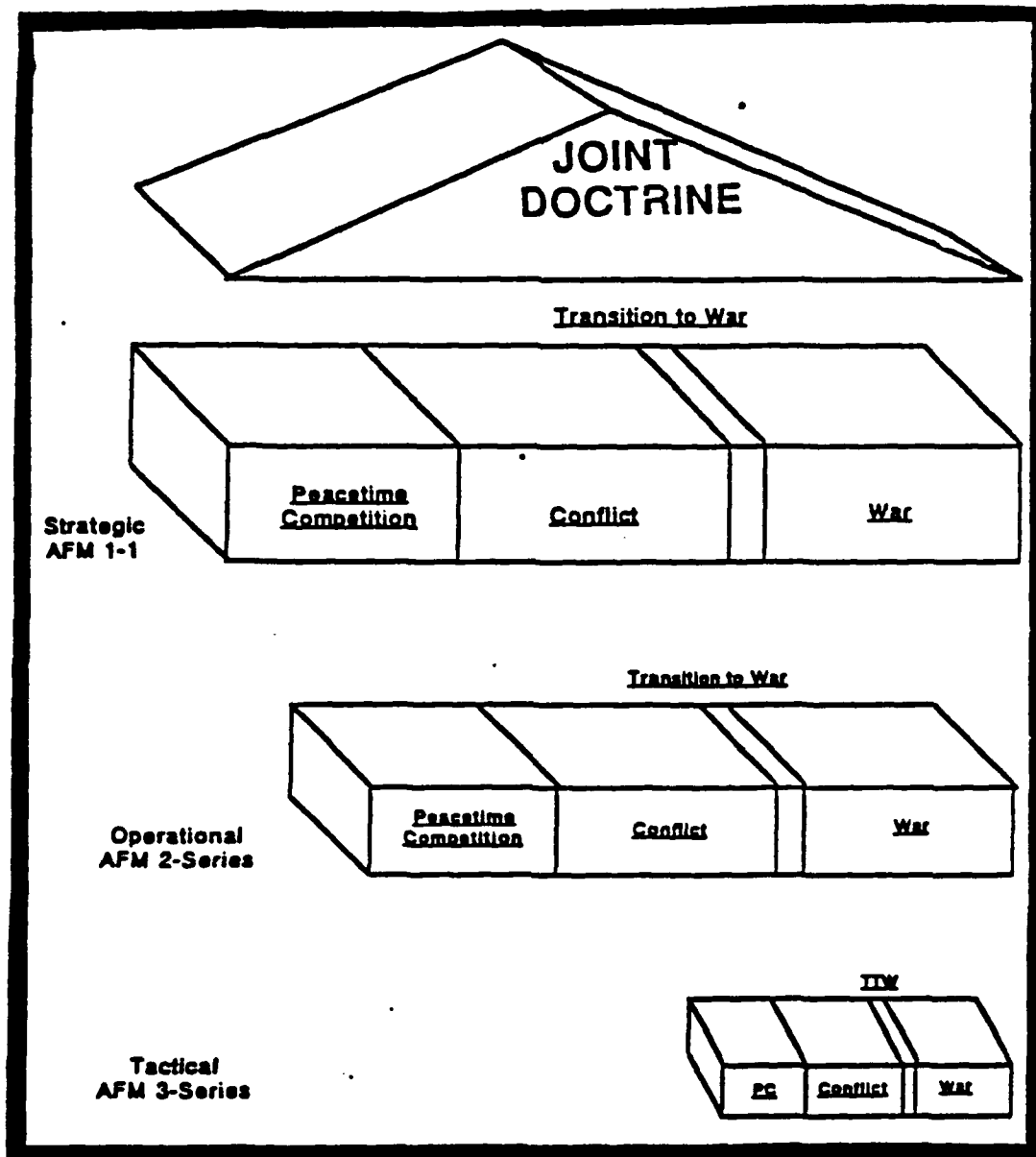


FIGURE 4: USAF DOCTRINE AND THE OPERATIONAL CONTINUUM

but the manual is primarily oriented towards warfighting. <45> AFM 1-1 treats special operations as a single purpose mission complementary only to conventional general purpose force operations. Conceptually, fighters could not support special operations forces in this narrow definitional framework. <46> The Air Staff is rewriting AFM 1-1 to align it with published joint doctrine. <47> A brief review of USAF operational doctrine is needed now because of the close relationship between the operational plan and tactical mission execution.

Lt. Col. John Skorupa commented on USAF operational level doctrine in his book, Self Protective Measures to Enhance Airlift Operations in Hostile Environments:

On review of AFM 2-1, Tactical Air Operations Counter Air, Close Air Support, and Air Interdiction, and AFM 2-4, Tactical Air Force Operations Tactical Airlift, one is struck by how old they are (2 May 1969 and 10 August 1966, respectively). Conceptually, they fall short on several scores: they predate Air Land Battle doctrine (circa 1982); they contain no mention of joint SEAD [Suppression of Enemy Air Defenses] missions; and short of traditional references to gaining air superiority over enemy air forces and suppressing or destroying surface-to-air defense systems, they do not say how airlift is to proceed. <48>

Current USAF operational doctrine is too outdated to be of much use to an operational level commander. Evolving weapons technology and joint operations have made it obsolete. <49> My review of USAF operational fighter

doctrine indicates it is deficient in coverage of contingency operations. MAJCOM's have tried to update USAF operational doctrine during the last decade. <50> For some reason, drafts of this doctrine suffered 'political death' at the Air Staff! <51>

Operational level joint doctrine exists in Field Manual (FM) 100-20/AFM 2-20, Military Operations in Low Intensity Conflict (7 March 1989, Final Draft). This manual describes the general state of conflict on the operational continuum. Discussions of USAF combat operations must be added to AFM 2-20 in the future since they span the operational continuum. <52> Fresh USAF operational level doctrine must also cover peacetime competition, transition to war, and war to completely cover the operational continuum.

There is no single source operational level doctrine in the USAF that covers the operational continuum. USAF operational level doctrine is weapon system or mission area oriented - bomber, fighter, transport, and special operations. <53> At the operational level, an air component commander (ACC) commands many types of aircraft. Different aircraft types can fly together or support each other on common missions. <54> An ACC needs current operational level doctrine to guide him in direction of tactical missions. <55> Now lets examine Air Force tactical doctrine with our criteria.

Tactical level doctrine applies basic and

operational doctrine to military actions by describing the proper use of specific weapons systems to accomplish detailed objectives. <56> Fighter pilots write and are most familiar with tactical level doctrine. It describes missions and specialized tasks.

Contingency operations are covered in the Tactical Air Forces Multi Command Manual (MCM) 3-1 Volume (Vol.) I, Mission Employment Tactics Tactical Employment, General Planning and Employment Considerations. Unified command air forces like Central Air Force (CENTAF), Pacific Air Force (PACAF), and United States Air Forces Europe (USAFE), have theater tailored mission commander checklists. These checklists can be used to package forces for contingency operations. Air Force Special Operations Command (AFSOC) and Air Force Southern Command (AFSOUTH) currently do not have checklists but generic principles from the others could be used. Lessons learned from the raid on Libya and other pertinent contingencies are present. MCM 3-1 Vol. I includes tactical interface with SAC and special operations aircraft. <57> The rest of the volumes in the MCM 3-1 series are aircraft type or mission specific.

Aircraft and mission specific volumes in the MCM 3-1 series generally cover classified tactics. Table 1 shows an unclassified review of the status of the MCM 3-1 series regarding contingency operations and special operations forces coordination. <58>

TABLE 1: MCM 3-1 VOLUMES VS MONOGRAPH CRITERIA

Do the manuals contain provisions for contingency operations and Special Operations Forces coordination?

	Contingency Operations	Special Operations
Vol. 1, General Planning	Yes	Yes
Vol. 2, Threats	No	No
Vol. 3, A-10	No	Yes
Vol. 4, F-15	No	Yes
Vol. 5, F-16	No	Yes
Vol. 6, F-111	No	No
Vol. 7, F-4	Yes	Yes
Vol. 8, Forward Air Control [OA-10, OV-10, OA-37, OT-37]	No	Yes
Vol. 9, RF-4	No	No
Vol. 10, Wild Weasel	No	No
Vol. 11, A-7	Yes	Yes
Vol. 12, F-106	No	No
Vol. 13, EF-111A	No	No
Vol. 14, Strategic Air Defense	No	No
Vol. 15, AWACS [E-3]	No	No
Vol. 16, Compass Call [EC-130H]	Yes	No

Less than half of the MCM 3-1 series volumes address contingency operations or fighter support of special operations forces in contingencies. We'll now examine the historical record to gain insight for the future.

Historical Evidence of Fighter
Operations During Contingencies.

History provides many examples of fighter support in contingency operations. Analyzing these examples provides an excellent tool for evaluating Air Force tactical doctrine. The examples chosen are the Mayaguez rescue, Desert One, the Marine deployment in Lebanon, Grenada, the Achille Lauro incident, and the Libyan Raid. Each operation had strategic objectives and operational level command and control procedures but all were tactically executed as contingency operations. Theoretically, doctrine should cover these type of operations at all levels of war:

We definitely need a body of air principles backed by the historical evidence of air employment.

-- Major General John Barker
April 1952 (59)

The Mayaguez

On 6 May 1975, Khmer Rouge gunboats fired upon and boarded the S.S. Mayaguez, an American container ship. An American captain piloted the Mayaguez, with a crew of 39 licensed American mariners. (60) Remembering the politically sensitive Pueblo incident, President Ford acted quickly to resolve the crisis militarily. (61) An

unarmed USN P-3 Orion subhunter found the Mayaguez, receiving heavy machine gun fire on overflight. USAF fighters were quickly summoned to provide armed presence overhead. The ROE allowed the fighters to return hostile fire if necessary to deter movement of the Mayaguez. <62> Later conventional USAF and USN fighter airstrikes supported recovery of the ship and crew. The American captain credited the "strong American air response on 13 and 14 May" with impressing the Khmer Rouge about American resolve. <63> The operation lasted 4 days employing fighters in support of conventional forces.

Desert One

Iranian students seized the American embassy in Tehran, Iran on 4 November 1979. <64> A special operation launched to recover the hostages, but ended in tragedy at Desert One. There was precedent for this type of operation in Otto Skorzeny's rescue of Mussolini <65>, the Son Tay Prisoner of War (POW) rescue attempt, and the Israeli commando rescue of hostages at Entebbe, Uganda. <66>

Helicopter and transport pilots flew at very low altitudes on their Desert One ingress to avoid radar detection. Iranian radar sites could have launched fighters to intercept and investigate the unknown

targets". This could have spelled disaster to the mission. <67> A similar situation occurred in North Vietnam when Son Tay raiders ingressed simultaneously with a high profile diversion airstrike well to the south of their route. <68> Son Tay occurred during a war. President Carter cancelled Desert One's planned direct airstrikes because of humanitarian reasons. Desert One's hostage rescue was not war. Navy fighters were on call if needed though. <69>

After an RH-53D flew into a parked EC-130E at Desert One, the mission was aborted leaving behind remains, much equipment, and classified material. Col. Charlie Beckwith, the ground mission commander, requested a U.S. Navy airstrike to destroy the abandoned equipment. President Carter cancelled this fighter mission also because of concern about civilian casualties. Ironically, Iranian fighters "strafed and bombed the hollow choppers at Desert One" later that day. <70>

Desert One was conducted primarily by Special Operations Forces. Conventional fighter airstrikes were planned as back up in an emergency.

Lebanon

The USN and Marine Corps (USMC) deployment to Lebanon (August 1982-February 1984) started as a peacemaking operation. The initial draft of JCS Pub

3-07 defines peacemaking as "a type of peacetime contingency operation intended to establish or restore peace and order through the use of force." <71> The Marines were an "interposition force to separate the staggering Lebanese government from the feuding religious militias and their powerful Syrian and Lebanese associates." <72>

Events deteriorated by summer 1983 when Marines on presence duty received frequent hostile fire. When Israeli forces withdrew from southern Lebanon in September, hostile artillery shelling against Marines increased. On 19 September, USN ships supported Lebanese Army units with naval gunfire. This shelling changed the role from "peacemaking" to "protector of the Lebanese government." <73> On 23 October 1983, a Hezbollah terrorist drove an explosive-filled white Mercedes into the Marine Headquarters killing 241 people. "For the Marines, it was the greatest loss of life in a single day of combat since the assault of Iwo Jima in 1945." <74> This terrorist bombing exploded more than the headquarters, it triggered a retaliatory response. A hastily ordered fighter airstrike and naval bombardment accomplished little. Minimal planning time affected the mission results of the airstrike. <75>

The Lebanon contingency began with ambivalent guidance as a peacemaking operation. Retaliatory fighter airstrikes supported conventional forces under terrorist

attack.

Grenada

On 24 October 1983, Special Operations Forces (SOF) began missions to rescue American students and political detainees on the Caribbean island of Grenada. Anti-aircraft artillery (AAA) fire thwarted one SOF aviation attack by the 160th Aviation Battalion. AAA at Point Salines Airfield forced Rangers to jump from 500 ft. above ground level (1000 ft. is normal jump altitude). Circling AC-130 Spectre gunships eliminated the Point Salines AAA threat with a combination of 105mm and 40mm fire. <76>

Conventional air, ground, and sea forces complemented the initial special operations forces in the invasion. After 25 October 1983, military operations in Grenada were wholly conventional. USN fighters and AC-130's conducted airstrikes supporting the conventional forces. A-10s from England AFB, Louisiana deployed to Barbados, but saw no combat action. F-15's were on alert at Eglin AFB, Florida, if needed. <77>

Joint SOF and conventional forces teamed to prevent potential terrorist action against U.S. citizens studying medicine on the island. (78) AC-130's and fighters supported both conventional and special operations forces.

Achille Lauro

On 7 October 1985, Palestinian Liberation Front (PLF) terrorists killed a wheelchair bound American citizen on board the Italian registered ship Achille Lauro. <79> The PLF terrorists demanded safe passage to Tartus, Syria. <80>

After denial of safe entry into Syria or Lebanon the terrorists sailed to Port Said, Egypt. Negotiations allowed the terrorists safe passage out of Egypt by airline. Meanwhile, the Joint Special Operations Command (JSOC) already had elements of Seal Team 6 and Delta Force available in the Mediterranean. They were ready to rescue the hostages if necessary. National Security Council staffers concurrently thought of intercepting the Egypt Air 737 over international airspace using USN Sixth Fleet fighters. During the interception, a USN Arab linguist aboard an EA-6 convinced the airline pilot to turn under F-14 escort to Sigonella, Sicily. <81>

The operation teamed conventional and special operation forces. Fighters set up the special operation by intercepting Egypt Air 737.

Libyan Raid

The United States conducted eight major exercises in the Gulf of Sidra from 1981-1986. <82> Most were Freedom of Navigation exercises. Libya, a sponsor of international terrorism, challenged some of these exercises. <83> In response to the Achille Lauro hijackers' capture, Col. Moamamar Quadhafi threatened United States citizens and government officials. <84>

The United States conducted three successive Freedom of Navigation exercises early in 1986 in the Gulf of Sidra. These exercises followed Libyan sponsored terrorist acts in Malta, Vienna, and Rome. American citizens perished in these attacks. On 23 March 1986, Libyan SA-5 long range surface to air missiles (SAMS) fired at USN fighters on exercise. Navy airstrikes promptly destroyed the hostile missile site with anti-radiation missiles. That same day, Quadhafi ordered more terrorist acts against Americans. British communications intercepts on 5 April 1986 directly linked Quadhafi to that day's Labelle Disco bombing in West Berlin. <85>

Early on the morning of 15 April 1986, USAF F-111s from Lakenheath, England conducted a joint airstrike with U.S. Navy Sixth Fleet A-6s against "targets linked to Quadhafi's support of terrorism." <86> This tactical airstrike supported the U.S. strategy to "make state

sponsors of terrorism pay a price for their actions." (87)
The aircraft bombed five targets with mixed results.
The NCA planned a second strike, if necessary. (88)
Qadhafi moderated his open support of terrorism after this, but still secretly supported about 30 insurgent and international terrorist groups. (89) USAF and USN fighters conducted conventional airstrikes against terrorist targets. Fighters were the key players in this contingency.

Summary of Historical Evidence

These contingency operations were military operations short of war. Though some operations emphasized special operations more than conventional, all examples occurred in the general state of conflict. Fighters in the cited examples supported both conventional and special operations forces.

The contingency operations cited have common threads. The men involved at the tactical level felt they were at war regardless of their proper location on the operational continuum. The following tables will illustrate the strategic objectives, the operational ranges flown, and the tactical threats planned for by pilots in each contingency.

Table 2 shows the strategic objectives of each contingency mission. They're important because in each case they required tactical means to achieve strategic

ends.

TABLE 2: STRATEGIC OBJECTIVES <90>

CONTINGENCY	STRATEGIC OBJECTIVES
Mayaguez	Secure the crew of S.S. Mayaguez Secure the S.S. Mayaguez Prevent Khmer Rouge reinforcement [Freedom of Navigation]
Desert One	Rescue all American hostages in Iran
Lebanon	Provide an interposition force and contribute to a multi- national presence to insure separation of foreign military units preparatory to a full foreign withdrawal. Re-establish full Lebanese sovereignty over the country. Insure Lebanese territory would not be used to launch attacks on Israel. [After the terror bombing... Protect Marine withdrawal and retaliate for the terrorist attack.]
Grenada	Insure the safety of American citizens on Grenada. Restore democratic government to Grenada in conjunction with the Organization of Eastern Caribbean States. Eliminate and prevent further Cuban intervention.
Achille Lauro	Capture the PLF hijackers.
Libya	Destroy major elements of Libya's terrorist command, training and support infrastructure.

Table 3 compares the operational ranges aircraft flew supporting the cited contingency operations.

TABLE 3: OPERATIONAL RANGES (MAXIMUM) FLOWN BY LAND BASED FIGHTER OR SOF AIRCRAFT <91>

I made the following assumptions:

Short Range = 0-200 statute miles (SM)

Medium Range = 200-300 SM

Long Range = greater than 300 SM

	RANGE	ACTUAL DISTANCE
Mayaguez	Long	(400 SM)
Desert One	Long	(900 SM)
Lebanon	Short	(150 SM)
Grenada	Long	(1950 SM)
Achille Lauro	Long	(1000 SM)
Libya	Long	(3000 SM)

Aircraft in all but one example (Lebanon) required long range capability. In that case, aircraft launched from a carrier off the Lebanese coast. Carrier aircraft (USMC, USN) provide a unique flexibility in contingency operations because they can deploy from international waters. This avoids problems with host nation approval of airstrikes from foreign bases. Fighters and special operations forces of all services will continue to require long range penetration capability for contingency operations.

Table 4 compares the threats pilots expected or planned for during the contingencies. Increased sophistication of hostile air defenses make these missions more difficult today.

TABLE 4: TACTICAL THREATS EXPECTED/PLANNED FOR BY FIGHTER AIRCRAFT OR SOF <92>

	AAA	SAMS	FIGHTERS	GROUND CONTROLLED INTERCEPT (GCI) RADARS
Mayaguez	Yes	No	Yes	No (1)
Desert One	Yes	Yes	Yes	Yes (2)
Lebanon	Yes	Yes	Yes	Yes (3)
Grenada	Yes	No	Yes	No (3)
Achille Lauro	No	No	No	No (3)
Libya	Yes	Yes	Yes	Yes (4)

1. P-3 Orion pilots searching for the Mayaguez anticipated Khmer Rouge fighter interception.
2. SOF Aircraft decided on low altitude ingress because of the chance of Iranian fighters.
3. The chance was remote, but (a) Syrian fighters could have challenged the Navy fighters. Some Syrians did man the AAA/SAMS that fired. (b) Cuban fighters could have challenged the deployment/invasion. (c) Libyan fighters could have challenged the JSOC C-141 or the Navy fighters.
4. Libyan fighters refused orders to fly on the night of the Libyan raid.

As more nations deploy fighters with look down/ shoot down radars, SOF aircraft will have a tougher time getting to their targets. SOF aircraft have large radar cross sections (signatures) compared to fighter aircraft. This increases their chance of radar detection as threat radars improve. They will need fighter support in some scenarios to survive. (93) Theoretically, nighttime low-level SOF penetration may not be feasible in some areas where nations improve their electronic target acquisition capability. The need for conventional fighter and special operations forces coordination in contingency operations will increase.

All of these contingencies were joint operations. Fighters prepared and executed tactical missions in support of conventional and special operations forces. An exception was the Libyan raid where fighters were the key players. Strategically, the threat of terrorism played in all of the contingencies. Operationally, aircraft were often required to fly long distances. Tactically, the capabilities of AAA, fighters and SAMs threatened all aircraft. These historical examples show the lack of joint and service doctrine on fighter support for contingency operations.

Conclusions

Contingency operations are not new to fighter pilots. They are simply unpredictable events that require their special attention. Execution of fighter missions in contingencies is very similar to those of wartime.

This monograph examined the adequacy of USAF fighter doctrine for contingency operations. It introduced a model of the operational continuum to illustrate the role of doctrine and then established criteria to evaluate USAF doctrine. The first of these criteria was inclusion of contingency operations in USAF doctrine. The second criteria was inclusion of fighter support of conventional and special operations forces in USAF fighter doctrine. It's clear that neither of these criteria are currently met.

The military must prepare for contingency operations. This requires preparing executable doctrine for them. Contingencies can occur across the operational continuum (peacetime competition, conflict, transition to war, and war). Each operation tactically executed has operational and strategic impacts. USAF fighter doctrine must therefore address these operations in environments across the operational continuum and at each level of war.

USAF doctrine, specifically fighter doctrine, is deficient at all levels concerning contingency

operations. At the tactical level, the USAF must incorporate support of conventional and special operations forces into the MCM 3-1 series of tactical manuals. At the operational level, a new TACM 2-1 must be published since it's over 11 years old. At the basic level, AFM 1-1 needs revision to incorporate joint doctrinal definitions. The operational continuum model of JCS Pub 3-0 could serve as a useful model to explain environments where contingencies can occur. Improving USAF doctrine in these areas would help prepare forces doctrinally for all forms of contingency operations.

International terrorists like Hezbollah, can simultaneously stage multiple politically sensitive terrorist incidents worldwide. Coincidental unrelated terrorist acts are also possible. The resolution of these incidents often requires the concurrent execution of operational and tactical means. These means can include both conventional and special operations forces with USAF fighters in support. <94>

The NCA can always opt to use fighters (USAF, USMC, USN) in any contingency. Joint and service doctrine must address this support. Historical examples incorporated into doctrine could aid future planning for these operations. Major General Lloyd Hopwood commented in 1958:

We try to make our doctrine and strategy conform to glamorous hardware, instead of studying modern conflict to find acceptable solutions from which to establish the hardware requirements we need. <95>

Each of the six historical contingency operations reviewed in this monograph were joint operations. Fighters flew tactical missions in five of the six examples and were planned for but not used in the other. Fighters supported both conventional and special operations forces in all examples except for the Libyan raid where no ground forces participated. Strategically, all examples involved terrorism. Operationally, aircraft flew long ranges in all but one example. AAA, fighters, and SAMs threatened aircraft in more than half the cases. The USAF must not ignore these lessons doctrinally for history could repeat itself. <96>

Future USAF doctrine must address contingency operations. USAF fighter doctrine must address support of conventional and special operations forces in contingencies. It's wise to review Dr. I. B. Holley's comments from 1974:

In short, doctrine is what is officially approved to be taught. But it is far more than just that. Doctrine is the point of departure for virtually every activity in the air arm. <97>

It's our obligation to correct this lack of doctrine, and review our point of departure.

APPENDIX A

Definitions

Contingency. An emergency involving military forces caused by natural disasters, terrorists, subversives, or by required military operations. Due to the uncertainty of the situation, contingencies require plans, rapid response and special procedures to ensure the safety and readiness of personnel, installations and equipment. Enclosure to JMTGM76-88, page 67.

Contingency Plan. A plan for major contingencies which can reasonably be anticipated in the principal geographical subareas of the command. JCS Pub. 1, page 86.

Continuum. A continuous extent, succession, or whole no part of which can be distinguished from neighboring parts except by arbitrary division. Websters II New Riverside University Dictionary (hereafter referred to as Websters II), p. 303.

Counterterrorism. Offensive measures taken to prevent, deter, and respond to terrorism. Also called CT. JCS Pub. 1, page 94.

Crisis. An incident or situation involving a threat to the United States, its territories, citizens, military forces, and possessions or vital interests that develops rapidly and creates a condition of such diplomatic, economic, political, or military importance that commitment of U.S. Military Forces and resources is contemplated to achieve national objectives. JCS Pub. 3-0, page vii.

Instruments of National Power. The means (political, economic, informational, and military) available for employment in the pursuit of national objectives. JCS Pub. 3-07, page xv.

Joint. Connotes activities, operations, organizations, etc., in which elements of more than one service of the same nation participate. (when all services are not involved, the participating services shall be identified, e.g. Joint Army Navy). JCS Pub. 1, page 199.

Joint Doctrine. Fundamental principles that guide the employment of forces of two or more Services in coordinated action toward a common objective. It will be promulgated by the Joint Chiefs of Staff. Enclosure to JMTGM-76-88, page 15.

Joint Force Air Component Commander. The joint force air component commander derives his authority from the joint force commander who has authority to exercise operational control, assign missions, directs coordination among his subordinate commanders, redirect and organize his forces to ensure unity of effort in the accomplishment of his overall mission. The joint force commander will normally designate a joint force air component commander. The joint force air component commander's responsibilities will be assigned by the joint force commander (normally these will include, but not be limited to, planning, coordination, allocation and tasking based on the joint force commander's appointment decision). Using the joint force commander's guidance and authority, and in coordination with other service component commanders and other assigned or supporting commanders, the joint force air component commander will recommend to the joint force commander appointment to various missions or geographic areas. JCS Pub 3-03, page iii.

Joint Force Special Operations Component Commander (JFSOC). The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of special operations forces and assets, planning and coordinating special operations, or accomplishing such operational missions as may be assigned. The joint force special operations component commander is given the authority necessary for the accomplishment of missions and tasks assigned by the establishing commander, up to and including operational control. The joint force special operations component commander will normally be the commander with the preponderance of special operations forces and possessing requisite command and control capabilities. JCS Pub 3-05, page xxvi.

Joint Operation. A military action or the carrying out of a strategic, operational, tactical, service, training, or administrative military mission by forces from two or more Military Departments; also, the conduct of combat, including movement, supply, attack, defense, and maneuvers needed to gain the objectives at any battle or campaign. JCS Pub. 3-0, page viii.

Joint Tactics, Techniques, and Procedures. The actions and methods which implement joint doctrine and describe how forces will be employed in joint operations. They will be promulgated by the Joint Chiefs of Staff. Enclosure to JMTGM-76-88, page 16.

Joint Task Force. A force composed of assigned or attached elements of the Army, the Navy or the Marine Corps, and the Air Force, or two or more of these Services, which is constituted and so designated by the Secretary of Defense or by the commander of a unified command, a specified command, or an existing joint task force. JCS Pub. 1, page 202.

Multi-service Doctrine. Fundamental principles that guide the employment of force of two or three services of the same nation in coordinated action toward a common objective. It is ratified by two or three Services, and is normally promulgated in joint Service publications that identify the participating service, e.g. Army-Navy Doctrine. JCS Pub 1, page 242.

National Command Authorities. The President and the Secretary of Defense or their duly deputized alternates or successors. Commonly referred to as NCA. JCS Pub 1, page 243.

National Objectives. Those fundamental aims, goals, or purposes of a nation, as opposed to the means for seeking these ends - toward which a policy is directed and efforts and resources of the nation are applied. JCS Pub. 1, page 244

National Policy. A broad course of action or statements of guidance adopted by the government at the national level in pursuit of national objectives. JCS Pub. 1, page 244.

National Strategy. The art and science of developing and using the political, economic, and psychological powers of a nation with its armed forces, during peace and war, to secure objectives. JCS Pub 1, page 244.

Operational Level of War. The level of war at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theaters or areas of operation. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives; sequencing events to achieve the operational objectives; initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics; they ensure the logistic and administrative support at tactical forces; and provide the means by which tactical successes are exploited to achieve strategic objectives. Enclosure to JMTGM-76-88, page 2.

Peacetime Competition. A non-hostile state wherein political, economic, psychological, and military measures, short of U.S. combat operations or active support to warring parties, are employed to achieve national objectives. JCS Pub. 3-0, page ix.

Peacekeeping. Efforts taken with the consent of the civil or military authorities of the belligerent parties to a conflict to maintain a negotiated truce in support of diplomatic efforts to achieve and maintain peace. JCS Pub 3-07, page xvi.

Peacemaking. A type of peacetime contingency operation intended to establish or restore peace and order through the use of force. JCS Pub. 3-07, page xvi.

Peacetime Contingencies. Normally, the short-term, rapid projection or employment of military forces in conditions short of war. Such employment can also require a large, highly visible buildup of US military forces over extended periods of time. JCS Pub. 3-07, page xvi.

Presence. (undefined in JCS Pub 1) Presence is best visualized by the worldwide presence of unified combatant commands. The size or permanence of the force varies; presence could be a large forward-deployed force illustrated by EUCOM's contribution to NATO, or a port call by just one ship at a critical time. The timeliness of the appearance of the force may be more influential to the success of presence than its size. U.S. military presence is seen in MAAGs [Military Assistance Advisory Groups], missions, and security assistance operations around the world. These may reflect both our level of interest and our assessment of the threat. On a larger scale of presence, forward-deployed forces speak loudly of U.S. global influence and represent a strong U.S. initiative in maintaining that influence. Presence may be considered a "show of flag." and our military presence has been a significant source of international goodwill. AFSC Pub. 1, page 212.

Show of Force. (undefined in JCS Pub. 1) A show of force is an extension of presence that stops short of bringing opposing forces together in conflict. It has been referred to as "muscle flexing" or "saber rattling." Properly applied and correctly timed, a show of force may be just the deterrent required to prevent any further escalation of hostilities. To be properly applied, the show of force must be credible in the eyes of our adversary. A training exercise that coincides

with a troublesome international political situation might be a good example of this option. AFSC Pub. 1, page 212.

Strategic Level of War. The level of war at which a nation or group of nations determines national or alliance security objectives and develops and uses national resources to accomplish those objectives. Activities at this level establish national and alliance military objectives; sequence initiatives, define limits and assess risks for the use of military and other instruments of power; develop global or theater war plans to achieve those objectives; and provide armed forces and other capabilities in accordance with the strategic plan. Enclosure to JMTGM-76-88, page 1.

Tactical Level of War. The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives. Enclosure to JMTGM-76-88, page 3

Terrorism. The unlawful use or threatened use of force or violence against individuals or property to coerce or intimidate governments or societies, often to achieve political, religious, or ideological objectives. JCS Pub. 1, page 370.

END NOTES

1. The 1986 Goldwater Nichols Defense Reorganization Act made joint doctrine the basis for service doctrine. JCS Pub 2, Unified Action Armed Forces (UNAAF) states, "Each service will ensure that its doctrine and procedures are consistent with joint doctrine established by the Chairman, Joint Chiefs of Staff." Therefore, established joint doctrine is the basis for service doctrine. The Chairman of the Joint Chiefs of Staff promulgates joint doctrine through the Joint Staff. Services update their doctrine to align it with joint doctrine.

Sources:

U.S. Air Force, AF Regulation 1-2 Aerospace Doctrine Assignment of Responsibilities for Development of Aerospace Doctrine, (Washington D.C.: U.S. Air Force, 25 July 1984), p. 1.

Joint Chiefs of Staff, JMTGM-76-86 US Joint Military Terminology Group - Changes for the DOD Dictionary of Military and Associated Terms, JCS Pub 1-02 (Known as JCS Pub 1 prior to 1 May 1988), (Washington D.C.: Joint Chiefs of Staff, 30 Sept 1988), p. 15.

2. AF Reg 1-2, p. 2.

3. Author's working definition. Military operations short of war are addressed in the UNAAF. JCS Pub 1 does not define this term. Joint Chiefs of Staff, (JCS) Publication (Pub) 2 Unified Action Armed Forces (UNAAF), (Washington, D.C.: The Joint Chiefs of Staff, December 1986), p. 2-1.

4. Joint Chiefs of Staff, JCS Pub 3-0 Doctrine for Joint Operations Final Draft, (Washington D.C.: Joint Chiefs of Staff, April 1989), p. x.

Also, national policy frames national objectives which build national strategy. National policy is a "broad course of action or statements of guidance adopted by the government at the national level in pursuit of national objectives." The national objectives are "those fundamental aims, goals, or purposes of a nation ... toward which a policy is directed and efforts and resources are applied." National strategy is "the art and science of developing and using the political, economic, and psychological power of a nation, together with its armed forces during peace and war [author's emphasis], to secure national objectives."

Joint Chiefs of Staff, JCS Pub 1, Department of Defense Dictionary of Military and Associated Terms (Washington, D.C.: The Joint Chiefs of Staff, 1 June 1987), p. 244.

5. Joint Chiefs of Staff, JCS Pub 3-0 Doctrine for Joint Operations Final Draft, (Washington D.C.: Joint Chiefs of Staff, April 1989), pp. vi to vii.

6. JMTGM-76-86, p. 15.

7. JCS Pub 2, p. 1-10.

8. JCS Pub 1, p. 118.

9. JCS Pub 2, pp. 3-58.

10. Air Force Manual 1-1, Basic Aerospace Doctrine of the United States Air Force (16 March 1984), pp. 1-4.

11. Irving B. Holley, "An Enduring Challenge: The Problems of Air Force Doctrine." The Harmon Memorial Lectures in Military History 16 (1974), p. 3.

12. AFM 1-1, pp. 1-2 thru 1-3.

13. JCS Pub 1-01 outlines an organized sequence for the development of joint doctrine. Lead agents, usually services, develop, coordinate, review, and maintain specific publications. For example, the US Army (USA) is lead agent for JCS Pub 3-0, Doctrine for Joint Operations. The USAF is lead agent for JCS Pub 3-03, Doctrine for Joint Interdiction Operations.

Normally, a Joint Doctrine Working Party at JCS creates joint doctrine. If recommended for acceptance as a project, they refine its scope and development begins. Drafts are written, reviewed, and coordinated in stages until they grow into Test Publications. An evaluation process that includes JCS exercises, review these documents. The Joint Staff publishes joint doctrine after final refinement and evaluation.

JCS Pub 1-01, pp. II-3, G-2 to G-3, V-1.

14. Major Terry Austin, JCS/J7-JOED, provided me with Figure 5. Personal letter to Author, 13 November 1989.

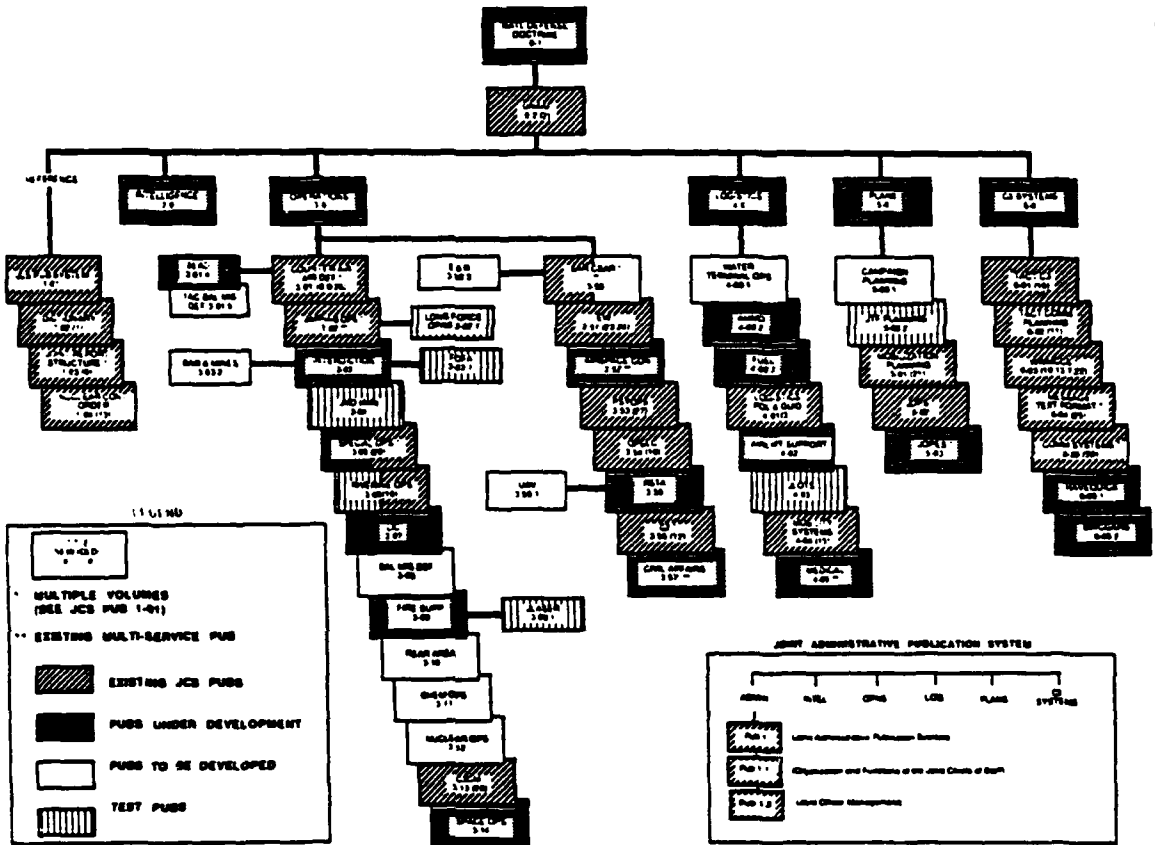


FIGURE 5: JOINT DOCTRINE PUBLICATION SYSTEM

JCS 0-series publications, Capstone Warfare Doctrine, will link joint doctrine to national strategy and the contributions of other government agencies and alliances. The UNAAF provides "the basic organization and command and control relationships required for effective joint operations of the forces of two or more services." The link from the UNAAF to Service doctrine is the JCS Pub 3 series of Publications.

JCS Pub 1-01, p. v-1 .

15. JCS Pub 3-0, p. viii.
16. LTC T. A. Taylor, who has done much work on JCS Pub 3-0, freely offered this model for use in this monograph.
17. JCS Pub 3-0, p. ix.
18. Author's definition.
19. Author's definition.
20. The strategic level of war establishes national objectives and allocates resources to achieve those objectives. The operational level of war uses campaigns to accomplish these objectives with the resources allocated within theaters or areas of operation. The operational commander, usually a Unified Commander in Chief (CINC), links the strategic to the tactical level of war via his operation or campaign plan.

Definitions are important in joint doctrine. The joint staff uses the US Joint Military Terminology Group to suggest, review, and approve new, revised, and deleted entries to JCS Pub 1.
21. JMT6M-76-86: Cover Page.
22. JCS Pub 1, p. 236.
23. The Joint Operations Planning System (JOPS) accounts for this. These procedures are defined in JCS Pub 5-02.4, Joint Operation Planning System Volume IV (Crisis Action Procedures). Crisis Action Procedures (CAP) develop and refine courses of action (COAs) at the operational and strategic levels of war. For example, in a contingency, both JCS and European Command (EUCOM) would parallel plan until the NCA picks a COA. Tactical units await execution orders from the NCA through the JCS to EUCOM. Then they execute contingency missions. See Chart 5, Crisis Action Procedures.
24. AFSC Pub. 1. The Joint Staff Officer's Guide 1988. (Norfolk, VA: National Defense University, Armed Forces Staff College, July 1988)

23. AFM 1-1, p. 3-2.

24. As an example, an important strategic goal in any theater is air superiority. An air force commander directs the operational level campaign plan to achieve that end. F-15 pilots execute the tactical offensive counter air (OCA) missions.

25. AFM 1-1, p. 3-6.

26. Future contingency operations will require joint planning and execution which implies the need for joint doctrine and joint tactics, techniques, and procedures (JTTP).

JCS Pub 3-07. Initial Draft Doctrine For Joint Operations in Low Intensity Conflict. (Washington D.C.: The Joint Chiefs of Staff, May 1989), pp. V-6 to V-7, V-15.

27. Ibid, pp. V-2, V-6.

28. JMTGM-76-86, p. 69.

29. JCS Pub 1, p. 339.

30. A USAF officer on the Air Staff asked LTC Thompson of the Low Intensity Conflict and Combatting Terrorism Proponency Office, "How many A-10s does the U.S. Army need for LIC?" in August 1989. All services are currently looking at force structure against perceived future threats. Clear joint doctrine, including definitions, serves us well in a time of decreasing budgets. Personal telephone conversation. Author with LTC Thompson, 9 November 1989.

31. JCS Pub 3-07, pp. ix-x.

32. Ibid, pp. V-1 thru V-15.

33. Review these selected headlines/ editorials cut out since monograph research began.

"Israeli Plane Strike Shiite Base [Hezbollah]."
Kansas City Times KCT, 28 Aug 89: A3.

"Cleric [pro-Iranian Muslim] Says Bush, Pope Should Be Kidnapped." KCT, 31 Aug 89: 1.

"Columbians Threaten Bush Family, Officials,"
Kansas City Star KCS, 27 Sept 89: 2A.

"CIA Director is 100% Wrong About Blurring of Authority," [Thinkpiece on overturning a executive order banning assassination] KCT, 21 Oct 1989: A23.

"Libya Admits having Aided Terrorists." KCT, 26 Oct 1989: A11.

"Prayers Go Out for Hostages." KCT, 28 Oct 1989: A4.

Associated Press. "Many Say Restore Ties with Iran." KCS, 30 Oct 1989: 1.

Associated Press. "Iranian Leader Urges Anti-U.S. Campaign." KCS, 2 Nov 1989: A9.

Harry Summers. "Thuggees Resurrected 10 Years Ago." KCS, 2 Nov 1989: A10.

"Iran Vows to Capture Americans, Try Them in Islamic Courts. KCT, 2 Nov 1989: A5.

"Case Against Iran's Fanatical Theocracy Probably Cannot be Overstated." KCT, 9 Nov 1989: A17.

Associated Press. "Iran Won't Help Get Hostages Freed." KCS, 9 Nov 1989: A12.

"Iran Says Release of Assets Not a Sign of U.S. Goodwill." KCT, 10 Nov 1989: A6.

Stephen E. Winn. "More Goodies for Iran." KCT, 11 Nov 1989: A27.

New York Times News Service. "Rift Among Terrorists Alleged - Abu Nidal Power Struggle Blamed for 150 Deaths [in Libya]." KCS, 12 Nov 1989: A16.

34. USAF Special Operations School, Handbook United States Special Operations Command (Hurlburt Field, Florida, USAF Special Operations School): p. 7-6. For further study see JCS Pubs 3-04, 3-05, 3-07 and 5-00.2.

Joint Chiefs of Staff. Test Pub. JCS Pub 3-04. Doctrine for Joint Maritime Operations (Air) 3-04. Washington, D.C.: The Joint Chiefs of Staff, 1 May 1983.

Joint Chiefs of Staff. Initial Draft JCS Pub 3-05. Doctrine for Joint Special Operations. Washington, D.C.: The Joint Chiefs of Staff, June 1989.

Joint Chiefs of Staff. JCS Pub 3-07. Initial Draft Doctrine for Joint Operations in Low Intensity Conflict. Washington, D.C.: The Joint Chiefs of Staff, May 1989.

Joint Chiefs of Staff. Test Pub JCS Pub 5-00.2 Joint Task Forces (JTF) Planning Guidance and Procedures. Washington, D. C.: The Joint Chiefs of Staff, 15 June 1980.

35. Joint doctrine is currently deficient in the area of contingency operations. The Navy will be the lead agent for a future publication covering contingency operations. Meanwhile, contingency operations are daily possibilities.

LTC Tom Smith, personal conversation with Author, 2 November 1989.

36. If it is a small operation, the Counter-terrorism Joint Task Force (CTJTF) will probably handle it alone, supported by conventional forces.

JCS Pub 3-07, pp. III-1 thru III-16.

37. Ibid, p. v-6.

38. Also, the NCA will determine the "supported force", normally a CINC. The "supported" CINC is the operational level commander who controls the tactical means to achieve operational ends. He is supported by the "supporting force," normally another CINC(s). The supported CINC determines the command relationship necessary to execute the operation on the tactical level.

Digging through the correct definitions of emerging joint words can be painstaking. See the explanations of Combattant Command (COCOM), Operational Control (OPCON), and Guidance on Exercise of Support.

JCS Pub 0-2, Subsection 2, Chapter 3 pages 3-9 thru 3-19.

39. JCS Pub 1, pp. 21, 301, 351 respectively.

40. Air Force Manual 1-1, pp. 3-4.

41. Ibid, p. 2-2.

42. Ibid, pp. v thru vi.

43. AF Regulation 1-2, p. 2.

44. JCS Pub 1-01, p. 3 of summary.

45. AFM 1-1, pp. 1-2, 2-1 thru 2-21.

46. Ibid, p.3-4.

47. An attempt by the Air Staff to delete special operations as a basic Air Force mission concerned AFSOC. Joint doctrine lists special operations as a distinct mission. A draft of the proposed AFM 1-1 had reduced special operations to a "broad fundamental type of operation air power can perform." Definitions are important and will continue to be debated jointly and within services.

COMAFSOC 151330L[89] MESSAGE TO HQ USAF XOXWD
SUBJECT: Air Force Manual (AFM) 1-1, Basic Aerospace Doctrine.

48. LT. COL Skorupa's book is an indepth analysis of current USAF Doctrine concerning Airlift. The latest publication date I found for TACM 2-1 was 15 April 1978.

John A.Skorupa, Lt Col, USAF. Self Protective Measures to Enhance Airlift Operations in Hostile Environments. (Maxwell AFB, Ala: Air University Press. September 1989): pp. 5-6.

49. I base my observation on phone interviews with numerous USAF Officers. The observation is mine alone. I have not quoted these officers. They may not agree with my observation. I did talk with each about the current status of USAF operational doctrine.

USAF COL Gaskin at OSD/Net Assessment, 28 Sept 89.

USAF MAJ Austin at JCS J7, JOED, 11 Oct 89.

USAF LT COL Utsunomiya at the Joint Doctrine Center, 12 Oct 89.

USAF MAJ Fulbright at HQ USAF/XOXWD, 4 Oct 89.

USAF MAJ Ettenson at USSOCOM/SOJ5, 16 Oct 89.

USAF LT COL Williamson at HQ TAC/XPJD, 13 Oct 89.

USAF LT COL Hayden at HQ MAC/XPPD, 13 Oct 89.

USAF LT COL Miller at HQ SAC/XPPX, 18 Oct 89.

50. Serious attempts to rewrite AFM 2-5, Tactical Air Operations - Special Air Warfare (MAC), dated 10 March 1967, were made in the early 1980's. The draft was never published.

USAF COL. Janneron, US SOCOM/JMA, Personal telephone conversation with Author, 16 Oct 1989.

51. LT COL Wayne R. Williamson; Chief, Doctrine Division; Directorate for Joint Matters at HQ TAC/XPJD. Personal letter to Author, dated 26 Oct 1989.

52. Mr. John B. Hunt, LIC Specialist at the US Army Training and Doctrine Command LIC Proponency Office at Ft. Leavenworth, Kansas. Personal letter to author dated 26 September 1989.

53. AFR 1-2, p. 5.

54. Thomas A Cardwell, III, Colonel, USAF. Command Structure for Theater Warfare, The Quest for Unity of Command. Maxwell AFB, AL: Air University Press, September 1984, p. 39.

55. Lt. Col Skorupa's book has an interesting epilogue that discusses problems with Air Force doctrine.

AFR 1-2 gives an illustrative example of what USAF operational doctrine should be. 'An air commander employs forces to attain air superiority by orchestrating offensive and defensive counter air operations, suppressing enemy defenses, and coordinating various support actions such as warning, command, control, and communications; deception; countermeasures; aerial refueling; and logistics.'

USAF Col. John Warden's book, The Air Campaign, describes the current lack of Joint and USAF operational doctrine. Using published joint doctrine, historical examples, and thought provoking books like Col. Warden's, USAF doctrine writers could produce some current operational doctrine.

Sources:

Skorupa, pp. 182-185.

John A. Warden, III, Colonel, USAF, The Air Campaign. (Washington D.C.: National Defense University Press, 1988), p. 6.

56. AF Reg 1-2, page 1.

57. Other volumes in the MCM 3-series are Aircraft Specific (ex. Vol 3 = A-10). I did not research SAC, MAC, or AFSOC 3-series manuals.

Multi Command Manual/TACM/AACM/PACAFM/USAFCM 3-1. Volume 1; Mission Employment Tactics, Tactical Employment, General Planning and Employment Considerations, 57 FWW/DTW, Nellis AFB, Nevada, 4 July 1989: pp. ii to iii.

58. Page references that meet the monograph criteria are shown. Where no reference is found it is noted as such.

Sources:

MCM 3-1, Vol. 1, pp. 8-1 thru 8-9, A9-1 thru A9-11, A10 thru A12, A7-15 thru A7-20.

Vol. II., Unclassified review shows no reference in entire manual.

Vol. III., pp. 9-1 thru 9-37.

Vol. IV., pp. 19-10 thru 19-13.

Vol. V., p. 9-2.

Vol. VI., Unclassified review shows no reference in entire manual.

Vol. VII., pp. 9-1 thru 9-3.

Vol. VIII., pp. 8-5 thru 8-18, F-6 thru F-8.

Vol. IX., Unclassified review shows no reference in entire manual.

Vol. X., Unclassified review shows no reference in entire manual.

Vol. XI., pp. 8-22 thru 8-26, 9-1 thru 9-29.

Vol. XII., Unclassified review shows no reference in entire manual.

Vol. XIII., Unclassified review shows no reference in entire manual.

Vol. XIV., Unclassified review shows no reference in entire manual.

Vol. XV., pp. 6-9 thru 6-16.

Vol. XVI., pp. 4-7 thru 4-9.

59. Dr. Robert F. Futrell, "Some Patterns of Air Force Thought," Air University Review (January-February 1964): p. 81.

60. Daniel P. Bolger, Americans at War: 1975-1986 An Era of Violent Peace. (Novato, California: Presidio Press, 1988), p. 20.

61. Lt. Colonel Richard F. Brauer Jr., USAF, "Planning for Hostage Rescue Missions: A Critical Examination." Essays on Strategy, Selections from the 1984 Joint Chiefs of Staff Essay Competition. (Washington, D.C.: National Defense University Press, 1985): p. 10.

62. Bolger, pp. 26-30.

63. Ibid, p. 92.

64. Brauer, p. 7.

65. Otto Skorzeny, a SS commando, was a favorite of Hitler. He had studied T.E. Lawrence. Hitler chose Skorzeny to rescue Mussolini from Italian soldiers disloyal to the Nazis. British fighters shot down Skorzeny's He-111 while he was flying over Italy. Later when Skorzeny was conducting a reconnaissance of Gran Sasso, he narrowly missed detection by Allied fighters.

When Skorzeny landed at Frasquati, his house was bombed by Allied bombers. On September 12, 1943, Allied bombers struck the base where Skorzeny was about to launch his gliders from. Skorzeny again escaped. After the successful prisoner snatch at Gran Sasso, Skorzeny's overloaded Fiester Fi-156 'Storch' flew to safety. He never got above 320 feet above ground level so as to avoid Allied fighters. Skorzeny had learned the hard way that special operators in airplanes are vulnerable to fighters.

Otto Skorzeny, Skorzeny's Secret Missions: War Memoirs of the Most Dangerous Man in Europe, translated by James Le Clerq. (New York: E. P. Dutton & Co., Inc. 1950). pp. 57-106.

66. Colonel (Col.) Charlie Beckwith had built Delta Force, the rescuers, on the British Special Air Service (SAS) model. He's served an exchange tour with the SAS and had previous combat Special Forces (SF) experience. Delta was designed as a counterterrorist force. The situation in Tehran posed a difficult problem though ... extreme long range was required for penetration. Delta would have to cross long distances of hostile Iranian airspace, undetected, before attempting a rescue.

Lt. Col. Brauer wrote a very concise analysis of Son Tay and Entebbe, which I recommend.

Sources:

Col. Charles A. Beckwith, USA (Retd.) and Donald Knox. Delta Force. (New York: Harcourt Brace Jovanovich, Publishers, 1983), pp. 95-104.

Lt. Colonel Richard F. Brauer Jr., USAF, "Planning for Hostage Rescue Missions: A Critical Examination." Essays on Strategy, Selections from the 1984 Joint Chiefs of Staff Essay Competition (Washington, D.C.: National Defense University Press, 1985).

67. Bolger, p. 150.

68. Lt. General Leroy Manor, USAF (Retd.), Joint Task Force Commander of the Son Tay Raid, Personal telephone conversation with Author, 5 October 1989.

69. Bolger, p. 139.

70. One requirement for long range penetrations is stealth. The rescuers must get to their assigned area intact and undetected. Planners must account for possible aircraft mechanical failure, interception by hostile fighters, and attack by surface to air missiles (SAMS), and anti-aircraft artillery (AAA). Rescue forces need air to air (A/A) and air to ground (A/G) fighter protection on call in some situations. Most rescue forces are armed and equipped with their own weapons systems to give this protection.

Close escort of special operations forces by fighters is usually disdained because of the increased potential of radar detection. When long distances are involved there comes a point when the distance is too great for strip alert fighters to accompany rescue forces or give responsive service to rescuers from strip alert, if needed. A clandestine 'hide' airstrip is a possibility, but unless vertical short takeoff and land (VSTOL) fighters are used, hides are difficult to keep secret. Therefore diversionary strikes are usually planned. This gives fighters the ability to swing to emergency support of special operations forces.

A second mission was planned to free the hostages, but never was launched. Open source literature on this mission is sketchy and speculative at best. Operational surprise for a second rescue attempt was lost. I believe that factor would lead to reliance on fighter support for any second attempt. This would ensure unimpeded entry of the rescue force into Iran.

Sources:

Sid Balman Jr., "Second: U.S. Force Planned to Invade Tehran to Free 52." Air Force Times September, 25 1989: pp. 16-17, 22-24, 84.

- Bolger, pp. 119-122.

71. Joint Chiefs of Staff, JCS Pub 3-07 Doctrine for Joint Operations in Low Intensity Conflict. (Washington D.C.: Joint Chiefs of Staff, May 1989), p. xvi.

72. Interposition is defined as a "come between."

Sources:

Websters II New Riverside University Dictionary. (Boston Massachusetts: Riverside Publishing, 1984), p. 638.

Bolger, p. 196.

73. Bolger, pp. 214-223.

74. Bolger, p. 126.

75. A counterterrorist operator, Gayle Rivers (pseudonym), claims that the raids were a diversion for US Special Forces carrying out "much more efficient and devastating reprisal raids." I won't address assassination any further in this monograph as an option to combat terrorism. See The Specialist by Gayle Rivers, pages 12-21 for an interesting analysis of retaliation. For terrorist acts read pages 184-200 in his book The War Against Terrorists.

Gayle Rivers, The Specialist, Revelations of a Counterterrorist (New York: Stein and Day, 1985); The War Against Terrorists (1986).

Also note: Two USN planes were shot down; one A-6 and one A-7. One pilot was killed, one rescued, and one right seater was captured by Syrian forces and later released to Jesse Jackson. Gen. Lawson of European Command stated, "We're still looking for where the New Jersey rounds hit."

David C. Martin, and John Walcott. Best Laid Plans: The Inside Story of Americas War Against Terrorism (New York: Harper & Row, Publishers, 1988), p. 392

76. Bolger, pp. 305-320.

Also Note: The AC-130 is an effective weapon for precision air to ground support. But "the AC-130 is not survivable in a high threat environment and not always available or usable in every scenario." The USAF Special Operations School Handbook states that "within permissive environments [author's emphasis], it is especially effective." Permissive environment in this context means a low threat posed by enemy AAA, fighters, and SAMs. Grenada, fortunately, was a permissive environment. AAA is still a potent weapon against fixed and rotary wing aircraft.

Sources:

Col. Richard F. Brauer, Jr., USAF, Commandant. USAF Special Operations School, Personal letter to Author, 29 September 1989.

Handbook United States Special Operations Command, p. 5-11.

77. Bolger, pp. 291-324.

78. Grenada was a true joint operation. A USAF Air Liaison officer (ALO) with the Rangers jumped in on the assault. While calling in airstrikes for his battalion, he was wounded by a short bomb dropped by the Navy. A Marine General awarded him his Purple Heart.

Col. John W. Lieberherr, USAF, Deputy Commander for Operations, USAF Fighter Weapon School. Personal letter to Author 24 October 1989.

79. The PLF is an off shoot of Yassir Arafat's Palestine Liberation Organization (PLO).

U.S. Department of State. Patterns of Global Terrorism. (Washington, D.C.: U.S. Department of State, 1988)

80. Bolger, pp. 362-365.

81. Captain James Stark (USN) is given credit for the idea. Lt. Col. Oliver North (USMC) is given credit for selling the idea.

Sources:

Martin, p. 245-249.

Bolger, p. 374.

The Mediterranean is a large area to search; doing it at night, secretly, is even more complicated. Sixth Fleet F-14s actually intercepted a blacked-out C-141 carrying elements of JSOC before they intercepted the airliner.

Also, political problems plagued the operation from this point. When the Egypt Air plane landed at Sigonella, a "stalemate" occurred between JSOC and local Italian Carabinieri (Italy's military national police). President Reagan eventually told JSOC to turn the terrorists over to the Italians. The hijackers went to Italian jails; unfortunately Abul Abbas, the mastermind of the incident, escaped to Yugoslavia.

Bolger, p. 376.

82. Bolger, p. 390.

83. U.S. Department of State. Patterns of Global Terrorism, p. 45.

84. Quadhafi vowed in August 1981 to kill President Reagan after US Navy jets shot down two Libyan fighters who deliberately fired on them. Plans to counter Libyan threats began in November 1981. It wasn't until January 1986 that President Reagan severed all economic ties with Libya and ordered all remaining Americans to leave Libya. This was the end of a process of graduated diplomatic actions geared to pressure Quadhafi to cease sponsorship of international terrorist organizations.

Sources:

Bolger, p. 363.

Martin, pp. 72-73, 80-81, 275.

85. Martin, pp. 283-286.

86. Martin, p. 290.

87. U.S. Department of State. Patterns of Global Terrorism, p. iv.

88. No open source material that I could find admits to any special operations planned, ordered, or executed in conjunction with the conventional airstrike. Search and rescue forces were probably planned for in case pilots were shot down in enemy territory.

Martin, p. 315.

89. U.S. Department of State. Patterns of Global Terrorism, p. 45.

90. Bolger, pp. 49, 139, 197, 295, 369, 406.

Also John F. Lehman, Jr., Command of the Seas, Building the 600 Ship Navy (New York: Charles Scribner's Sons, 1988), p. 327.

91. My definition of range is purely opinion. Actual distances are given so readers can draw their own conclusions. For the Lebanon and Achille Lauro examples I used the airfield on Crete as the point of departure for a USAF aircraft distance comparison.

Readers Digest, Readers Digest World Wide Atlas (New York: The Readers Digest Association, 1979), pp. 94-95, 100, 51, 107, 64.

192. Sources:

Mayaguez: Bolger, pp. 25, 41-42.
Desert One: Bolger, pp. 26, 121-122, 150-151.
Lebanon: Lehman, pp. 326-338.
Grenada: Bolger, pp. 300-301, 310-337.
Achille Lauro: Author's opinion on Note 3.
Libya: Bolger, pp. 412-413.

93. Brauer, letter.

94. See Chapters 6 and 7 of Gayle River's The War Against the Terrorists.

Gayle Rivers, The War Against Terrorists. (New York: Stein and Day, 1986)

95. Futrell, p. 87.

96. Recently, USAF F-4 pilots stationed at Clark Air Force Base, helped thwart a coup attempt against Phillipine President Corazon Aquino. The pilots flew counter air missions to guard against T-28s that had previously bombed the Malacanang Presidential Palace. These conventional fighter missions were military operations short of war. The missions were tactically executed under an operational level contingency plan. The NCA gave strategic guidance.

Sources:

Associated Press. "Aquino Troops Repel Rebels, US Warplanes Offer Protection." KCS, 2 December 1989: 1.

New York Times. "US Feared Overthrow of Aquino, American Planes Helped Turn Tide." KCT, 2 December 1989: 1.

Associated Press. "Fighting Continues in Manila, Rebel Coup Effort Traps Foreigners in Financial Area." KCS, 4 December 1989: 1.

Associated Press. "Americans Still Trapped in Manila." KCS, 5 December 1989: 1.

Associated Press. "Phillipine Rebels Free Americans." KCT, 6 December 1989: 1.

97. Holley, p. 2.

BIBLIOGRAPHY

BOOKS

- Adams, James. Secret Amies. New York: The Atlantic Monthly Press, 1987.
- Beckwith, Charlie A., Col., USA (Retd.) and Knox, Donald. Delta Force. New York: Harcourt Brace Jovanovich, 1983.
- Ben-Porat, Yeshayahu, Haber, Eitan and Schiff, Zeev. Entebbe Rescue. Trans. Louis Williams. New York: Delacorte Press, 1976.
- Bolger, Daniel P. Americans at War: 1975-1986, An Era of Violent Peace. Novato, CA: Presidio Press, 1988.
- Borowski, Harry R., Lt. Col., USAF, Ed. Military Planning in the Twentieth Century. Washington D.C.: Office of Air Force History, 1986.
- Brauer, Richard F., Jr., Lt. Colonel, USAF. "Planning for Hostage Rescue Missions: A Critical Examination." An essay in: Essays on Strategy, Selections from the 1984 Joint Chiefs of Staff Essay Competition. Washington, D.C.: National Defense University Press, 1985.
- Cardwell, Thomas A., III, Colonel, USAF. Command Structure for Theater Warfare, The Quest for Unity of Command. Maxwell AFB, AL: Air University Press, September 1984.
- Celmer, Marc A. Terrorism, U.S. Strategy and Reagan Policies. New York: Greenwood Press, 1987.
- Clausewitz, Carl von. On War. Ed. and Trans. Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.
- Clodfelter, Mark. The Limits of Airpower. New York: The Free Press, 1989.
- Cobb, Marck R., Major, USAF. Aerial Refueling. The Need for a Multipoint, Dual System Capability. Maxwell AFB, AL: Air University Press, July 1987.
- Collins, John M. Green Beret, Seals and Spetsnaz. New York: Pergamon-Brassey's, 1987.

- de Seversky, Alexander P., Major. Victory Through Air Power. New York: Simon and Schuster, 1942.
- Dean, David J., Lt. Col., USAF, Ed. Low Intensity Conflict and Modern Technology. Maxwell AFB, AL: Air University Press, June 1986.
- . The Air Force Role in Low Intensity Conflict. Maxwell AFB, AL: Air University Press, October 1986.
- Douhet, Giulio. The Command of the Air. Trans. Dino Ferrari. New Imprint. Washington D.C.: Office of Air Force History, 1983.
- Emerson, Steven. Secret Warriors. New York: G.P. Putnam's Sons, 1988.
- Emme, Eugene M. The Impact of Air Power. Princeton, NJ: D. Van Nostrand Company, 1959.
- Erickson, Richard J., Lt. Col., USAF. Legitimate Use of Military Force Against State Sponsored International Terrorism. Maxwell AFB, AL: Air University Press, July 1989.
- Gaither, Ralph, Lieutenant Commander, U.S. Navy. With God in a POW Camp. Nashville, TN: Broadman Press, 1973.
- Greer, Thomas H. The Development of Air Doctrine in the Army Air Arm 1917-1941. Washington D.C.: Office of Air Force History, 1985.
- Gregory, Harry. Khadafy. New York: Paper Tacks LTD., 1986.
- Hallion, Richard P. and Hohn, Richard H. General Editors. The Literature of Aeronautics, Astronautics, and Airpower. Washington D.C.: Office of Air Force History, 1984.
- Herbert, Paul H., Major, U.S. Army. Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations. Fort Leavenworth, KS: Combat Studies Institute, Leavenworth Papers #16, U.S. Army Command and General Staff College (USACGSC), July 1988.
- Hoffman, Bruce. Commando Raids: 1946-1983. Santa Monica, CA: Rand Corporation, October, 1985.

- Hogan, David Windweh, Jr. The Evolution of the Concept of the U.S. Army's Rangers, 1942-1983. Ann Arbor, MI: PHD Dissertation, Department of History, Duke University, University Microfilms, 1986.
- Holley, Irving B., Jr. An Enduring Challenge: The Problems of Air Force Doctrine. United States Air Force Academy, Colorado: The Harmon Memorial Lectures in Military History - #16, 1974.
- . Ideas and Weapons. New Imprint. Washington D.C.: Office of Air Force History, 1983.
- Holy Bible, King James Version. Oxford, United Kingdom: Oxford University Press.
- House, Jonathan M., Captain, USA. Toward Combined Arms Warfare; A Survey of 20th Century Tactics, Doctrine, and Organization. Fort Leavenworth, KS: Combat Studies Institute, Research Survey #2, (USACGSC), August, 1984.
- Hurley, Alfred F., Colonel, USAF and Ehrhard, Robert C., Major, USAF, Editors. Airpower and Warfare, The Proceedings of the 8th Military History Symposium of the United States Air Force Academy 18-20 October 1978. Washington D.C.: Office of Air Force History, 1979.
- Klingaman, Jerome W. Policy and Strategy Foundations for Low Intensity Warfare. Maxwell AFB, AL: Air University Press, September 1986.
- Lehman, John F., Jr. Command of the Seas, Building the 600 Ship Navy. New York: Charles Scribner's Sons, 1988.
- Livingstone, Neil C. The War Against Terrorism. Lexington, MA: Lexington Books, 1982.
- Mason, R. A., Air Vice Marshall C.B.E., M.A., R.A.F. Airpower: An Overview of Roles. New York: Brassey's Defense Publishers, 1987.
- Martin, David C. and Walcott, John. Best Laid Plans: The Inside Story of America's War Against Terrorism. New York: Harper & Row, Publishers, 1988.
- Merari, Ariel, Ed. On Terrorism and Combatting Terrorism. Frederick, MD: University Publications of America, 1985.

- Metc, David R. Land Based Air Power in Third World Crisis. Maxwell AFB, AL: Air University Press, July 1988.
- Miller, Samuel Duncan. An Aerospace Bibliography. Washington D.C.: Office of Air Force History, 1978.
- Mrozek, Donald J. The U.S. Air Force After Vietnam. Maxwell AFB, AL: Air University Press, December 1988.
- Myles, Bruce. Jump Jet, The Revolutionary V/STOL Fighter. New York: Brassey's Defense Publishers, 1986.
- Odom, Thomas P., Maj., Dragon Operations: Hostage Rescues in the Congo, 1964-1965. Ft. Leavenworth, KS: Leavenworth Papers #14, Combat Studies Institute (USACGSC), July 1988.
- Parritt, Brian A. H. Brigadier (Ret). CBE, Ed. Violence at Sea. Paris: I.C.C. Publishing, 1986.
- Readers Digest. Readers Digest World Wide Atlas. New York: The Readers Digest Association, 1979.
- Rivers, Gayle. [Pseudonym] The Specialist, Revelations of a Counterterrorist. New York: Stein and Day, 1985.
- . The War Against The Terrorists, How to Win It. New York: Stein and Day, 1986.
- Rowan, Roy. The Four Days of Mayaguez. New York: W. W. Norton & Company, 1975.
- Ryan, Paul B. The Iranian Rescue Mission, Why It Failed. Annapolis, MD: Naval Institute Press, 1985.
- Schemmer, Benjamin F. The Raid. New York: Harper & Row, 1976.
- Simon, Jeffrey D. The Implications of the Achille Lauro Hijacking for the Maritime Community. Santa Monica, CA: Rand Corporation, August 1986.
- Skorupa, John A., Lt Col, USAF. Self Protective Measures to Enhance Airlift Operations in Hostile Environments. Maxwell AFB, AL: Air University Press, September 1989.

- Skorzeny, Otto. Skorzeny's Secret Missions: War Memoirs of the Most Dangerous Man in Europe. Trans from the French by James Le Clercq. New York: E. P. Dutton & Co., 1950.
- Sloan, Stephen. Beating International Terrorism: An Action Strategy for Preemption and Punishment. Maxwell AFB, AL: Air University Press, December 1986.
- Stevensen, William. with material by Uri Dan, 90 Minutes at Entebbe. New York: A Bantam Book, July 1976.
- Taylor, Lawrence P. "International Terrorism and U.S. Diplomacy: Putting the Genie Back Into the Bottle." An essay in: Essays On Strategy III, Selections From the 1985 Joint Chiefs of Staff Essay Competition. Washington, D.C.: National Defense University Press, 1986.
- Thompson, Leroy. The Rescuers, The World's Top Anti-terrorist Units. Boulder, CO: Paladin Press, 1986.
- Ulanoff, Stanley M., Brig. Gen., USAR and Eshel, David, Lt Col., IDF (Ret). The Fighting Israeli Air Force. New York: Arco Publishing, 1985.
- United States Department of State. Patterns of Global Terrorism: 1988. Washington, D.C.: Office of Secretary of State, Ambassador-at-Large for Counterterrorism. March 1989.
- Vice President's [George Bush] Task Force on Combatting Terrorists. Terrorist Group Profile. Washington D.C.: Superintendent of Documents, United States Government Printing Office, 1988.
- Volley, Gerald R., Colonel, USAF. The War Exchange: Political-Military Interaction in Developing Military Strategy. Maxwell AFB, AL: Air University Press, August 1986.
- Warden, John A., III, Colonel, USAF. The Air Campaign. Washington D.C.: National Defense University Press. 1988.
- Watts, Barry D., Lt. Col., USAF. The Foundations of U.S. Air Doctrine: The Problem of Friction in War. Maxwell AFB, AL: Air University Press, December 1984.
- Websters II New Riverside University Dictionary. Boston, MA: The Riverside Publishing Company, 1984.

Werrell, Kenneth P. Archie, Flak, AAA and SAM: A Short Operational History of Ground-Based Air Defense. Maxwell AFB, AL: Air University Press, December 1988.

Whiting, Charles. Skorzeny. New York: Ballantine Books, 1972.

Wolk, Herman S. Planning and Organizing The Postwar Air Force 1943-1947. Washington D.C.: Office of Air Force History, 1984.

MAGAZINES

Balman, Sid, Jr. "Second: U.S. Force Planned to Invade Tehran to Free 52." Air Force Times 25 September 1989: pp. 16-17, 22-24, 84.

Barth, Fritz J., Captain, USMC. "Stemming Nuclear Terrorism." U.S. Naval Institute Proceedings. December 1989: pp. 54-58.

Bingham, Price T., Lt. Col., USAF. "Air Base Survivability and V/STOL Aircraft: A Gap in Air Force Doctrine?" Air University Review January-February 1986: pp. 51-57.

---. "Operational Art and Aircraft Runway Requirements." Airpower Journal Fall 1988: pp. 52-69.

Chain, John T., General, USAF. "Strategic Bombers in Conventional Warfare." Strategic Review Spring 1988: pp. 23-32.

Eshel, Tamir. "USAF Special Operations Forces." Defense Update 85 Jan 1988: pp. 9-12.

---. Israel. "[The] Israel[i] Airforce - Today" Defense Update June 1988: pp. 4-57.

Flores, Susan J., Major, USMC. "The Raid is Back." Marine Corps Gazette November 1988: pp. 25-26.

Futrell, Robert F. Dr. "Some Patterns of Air Force Thought." Air University Review January-February 1964: pp. 81-88.

Hallion, Richard P., Dr. "Doctrine, Technology, and Air Warfare - A Late Twentieth Century Perspective." Airpower Journal Fall 1987. pp. 16-27.

- Newton, Richard D., Major, USAF. "A Question of Doctrine." Airpower Journal Fall 1988: pp. 17-22.
- . "A U.S. Air Force Role in Counterinsurgency Support." Airpower Journal Fall 1989: pp. 62-72.
- Page, Kenneth M. Major, USAF. "U.S. Air Force Special Operations: Charting a Course for the Future." Airpower Journal Fall 1987: pp. 58-69.
- Pentland, Pat A., Major, USAF. "Close Air Support - A War Fighting View." Armed Forces Journal International September 1988: pp. 92-96.
- Phillips, Edward H. "Ayres Corp. Developing Low-Cost Multimission Vigilante Aircraft." Aviation Week & Space Technology 4 September 1989: pp. 52-53.
- Ropelewski, Robert R. "U.S. Tactical Air Power Moving into a New Era." Armed Forces Journal International January 1989: pp. 66-68.
- Sarkesian, Sam C. "The Myth of U.S. Capability in Unconventional Conflicts." Military Review September 1988: pp. 2-17.
- Shani, Joshua, Colonel, Israeli Air Force. "Airborne Raids: A Potent Weapon in Countering Transnational Terrorism." Air University Review March-April 1984: pp. 41-55.
- Sweetman, Bill. "Air Support for Special Operations." Interavia 2 Feb 1989: pp. 673-676.
- Taylor, Richard H., Colonel, USA. "What Are These Things Called 'Operations Short of War.'?" Military Review Ft. Leavenworth, KS, Jan 1988: pp. 4-7.

MANUALS

- AFSC Pub. 1. The Joint Staff Officer's Guide 1988. Norfolk, VA: National Defense University, Armed Forces Staff College, 1 July 1988.
- Air Force Manual 1-1. Basic Aerospace Doctrine of the United States Air Force. Washington D. C.: Headquarters United States Air Force, 16 March 1984.

Air Force Regulation 1-2. Aerospace Doctrine Assignment of Responsibilities for Development of Aerospace Doctrine. Washington, D.C.: Headquarters, U.S. Air Force, 25 July 1984.

Joint Chiefs of Staff. JCS Pub 0-2, Subsection 2, Chapter 3, Change 1, 21 April 1989. Change 1 to JCS Pub 0-2, UNAAF, Subsection 2, Chapter 3. Washington, D.C.: The Joint Chiefs of Staff, April 1988.

Joint Chiefs of Staff. JCS Pub 1. Department of Defense Dictionary of Military and Associated Terms (Incorporating the NATO and IADB Dictionaries.) Washington, D.C.: The Joint Chiefs of Staff, 1 June 1987.

Joint Chiefs of Staff. JCS Pub 1-01. Joint Publication System Joint Doctrine and Joint Tactics, Techniques, and Procedures Development Program. Washington, D.C.: The Joint Chiefs of Staff, 27 Jan 1988.

Joint Chiefs of Staff. JCS Pub 2. Unified Action Armed forces (UNAAF). Washington, D.C.: The Joint Chiefs of Staff, 1 December 1986.

Joint Chiefs of Staff. JCS Pub 3-0. Final Draft Doctrine for Joint Operations. Washington, D.C.: The Joint Chiefs of Staff, April 1989.

Joint Chiefs of Staff. JCS Pub 3-03. Initial Draft Doctrine for Joint Interdiction Operations. Washington, D.C.: The Joint Chiefs of Staff, June 1989.

Joint Chiefs of Staff. Test Pub. JCS Pub 3-04. Doctrine for Joint Maritime Operations (Air) 3-04. Washington, D.C.: The Joint Chiefs of Staff, 1 May 1988.

Joint Chiefs of Staff. Initial Draft JCS Pub 3-05. Doctrine for Joint Special Operations. Washington, D.C.: The Joint Chiefs of Staff, June 1989.

Joint Chiefs of Staff. JCS Pub 3-07. Initial Draft Doctrine for Joint Operations in Low Intensity Conflict. Washington, D.C.: The Joint Chiefs of Staff, May 1989.

Joint Chiefs of Staff. Test Pub JCS Pub 5-00.2 Joint Task Forces (JTF) Planning Guidance and Procedures. Washington, D. C.: The Joint Chiefs of Staff, 15 June 1980.

Joint Chiefs of Staff. JCS Pub 5-02.4. Joint Operation Planning System Volume IV (Crisis Action Procedures). Washington, D.C.: The Joint Chiefs of Staff, 8 July 1988.

Joint Chiefs of Staff. JMT6M-76-86 US Joint Military Terminology Group - Changes for the DOD Dictionary of Military and Associated Terms. JCS Pub 1-02 (Known as JCS Pub 1 prior to 1 May 1988). Washington, D.C.: The Joint Chiefs of Staff, 30 September 1988.

Multi Command Manual (MCM)/TACM/AACM/PACAFM/USAFCM 3-1, Volume (Vol.) 1. Mission Employment Tactics, Tactical Employment, General Planning and Employment Considerations, Secret (S). Nellis AFB, NV: 57 FWW/DTW, 4 July 1989.

---. Vol. II., Threat Reference Guide and Counter-tactics. TACOPS/INOS, Langley AFB, VA 15 October 1988.

---. Vol. III., A-10(S), 57 FWW/DTW, Nellis AFB, NV. 15 June 1988.

---. Vol. IV., F-15(S), 57 FWW/DTW, Nellis AFB, NV. 29 July 1988.

---. Vol. V., F-16(S), 57 FWW/DTW, Nellis AFB, NV. 29 February 1988.

---. Vol. VI., F-111(S), FWW/DTW, Nellis AFB, NV. 14 October, 1988.

---. Vol. VII., F-4(S), 4443 TEG/DOX, Eglin AFB, FL. 14 April 1989.

---. Vol. VIII., Forward Air Control(S), [OA-10, OV-10, OA-37, OT-37], 602 TAIRCW/OLAC, Nellis AFB, NV. 16 September 1988.

---. Vol. IX., RF-4(S), USAF TAWC/RWO, Eglin AFB, FL. 20 October 1989.

---. Vol. X., Wild Weasel(S), [F4-G], USAF TAWC/ECA, Eglin AFB, FL. 15 December 1988.

---. Vol. XI., A-7(S), ANG/AFRESFWO Tucson International Airport, AZ. 21 August 1987.

---. Vol. XII., F-106(S), 475 WEG/XOT, Tyndall AFB, FL. 10 January 1986.

- . Vol. XIII., EF-111A(S), USAF TAWC/ECA, Eglin AFB, FL.
22 September 1989.
- . Vol. XIV., Strategic Air Defense(S), 475 WEG/DTF,
Tyndall AFB, FL. 5 May 1989.
- . Vol. XV., Airborne Warning And Control System(S),
(AWACS), 57 FWW/DTW, Nellis AFB, NV. 1 May 1989.
- . Vol. XVI., Compass Call(S), [EC-130 h], USAF TAWC/
ECAO, Eglin AFB, FL, 30 June 1989.
- Tactical Air Command. Tactical Air Command Manual 2-1.
Langley AFB, VA: Headquarters Tactical Air Command,
15 April 1978.
- USAF Special Operations School. Handbook, United States
Special Operations Command, Hurlburt Fld., FL. [no
date].

NEWSPAPER ARTICLES

- Associated Press. "Aquino Troops Repel Rebels, U.S.
Warplanes Offer Protection." Kansas City Star 4
December 1989: A1.
- Associated Press. "Americans Still Trapped in Manila."
Kansas City Star 4 December 1989: A1
- Associated Press. "Cleric Says Bush, Pope Should be
Kidnapped." Kansas City Star 31 August 1989: 1
- Associated Press. "Columbians Threaten Bush Family,
Officials." Kansas City Times 27 September 1989:
A2
- Associated Press. "Iran Vows to Capture Americans, Try
Them in Islamic Courts." Kansas City Times 2
November 1989: A5.
- Associated Press. "Iran Won't Help Get Hostages Freed."
Kansas City Star 9 November 1989: A12.
- Associated Press. "Iranian Leader Urges Anti-U.S.
Campaign." Kansas City Star 2 November 1989: A9.
- Associated Press. "Fighting Continues in Manila, Rebel
Coups Effort Traps Foreigners in Financial Area."
Kansas City Star 4 December 1989: A1
- Associated Press. "Libya Admits Having Aided
Terrorists." Kansas City Times 26 October 1989:
A11.

Associated Press. "Phillipine Rebels Free Americans." Kansas City Times 6 December 1989: A1.

Associated Press. "Prayers Go Out for Hostage." Kansas City Times 28 October 1989: A4.

"Iran Says Release of Assets Not a Sign of U.S. Goodwill." Kansas City Star 10 November 1989: A6

New York Times. "U.S. Fears: Over the World, American Planes Helped to Kill." New York Times 10 November 1989: A1

New York Times (Jerusalem). "Israeli Planes Strike Shiite Base." Kansas City Times 28 August 1989: A3.

Sobran, Joseph. "Case Against Iran's Fanatical Theocracy Probably Cannot Be overstated." Kansas City Times 9 November 1989: A17.

Summers, Harry. "Thugees Resurrected 10 Years Ago." Kansas City Star 2 November 1989: A10.

"William F. Buckley, Jr., CIA Director is 100 Percent Wrong About Blurring at Authority." Kansas City Times, 21 October 1989: A23.

Winn, Steven E. "More Goodies for Iran." Kansas City Times 11 November 1989: A27.

OTHER SOURCES

Anno, Stephen E., Colonel, USAF, and William E. Einspahr, Lt. Colonel, USAF. "Command and Control and Communications Lessons Learned: Iranian Rescue." Maxwell AFB, AL: Air War College, May 1988.

Barnett, Dennis L., Major, USAF. "The USAF and Low Intensity Conflict: Evolution of a Doctrinal Void." Maxwell AFB, AL: Air Command and Staff College, April 1988.

Brooks, Robert J., Lt. Col., USAF. "Joint Command and Control Search for the Holy Grail." Maxwell AFB, AL: Air War College, April 1988.

Butler, Bradley L., Major, USAF. "Planning Considerations for the Combat Employment of Airpower in Peacetime." Langley AFB, VA: Army-Air Force Center for Low Intensity Conflict, May 1988.

- Casford, James V., Major, USMC. "American Strikes Back." Maxwell AFB, AL: Air Command and Staff College, April 1987.
- Crocker, George A., LTC, USA. "Grenada Remembered: A Perspective, A Narrative Essay on Operation Urgent Fury." Carlisle Barracks, PA: US Army War College, 21 March 1987.
- Day, James L., Major, USAF. "KC-135 Low Altitude Tactics." Maxwell AFB, AL: Air Command and Staff College, April 1988.
- Drummond, Raymond R., Major, USA. "The Unified Command System and Unity of Command." Thesis. Fort Leavenworth, KS: USACGSC, 16 May 1986.
- Fondacaro, Steve A., Major, USA. "Airland Battle and SOF: A Proposal For An Interim Doctrine for Joint Special Operations." Unpublished monograph. Fort Leavenworth, KS: SAMS, USACGSC, Second Term 88-89.
- Holland, William L. Major, USAF. "The Sandy Role in Present and Future Combat Search and Rescue Missions." Maxwell AFB, AL: Air Command and Staff College, April 1988.
- Hyten, Blaine W., Major, USAF. "The Soviet Air-to-Air Threat: Are Theater Airlift Aircraft Vulnerable?" Unpublished monograph. Fort Leavenworth, KS: SAMS, USACGSC, 4 December 1987.
- Jenkins, Brian M. The Aftermath of the Achille Lauro. Santa Monica, CA: Rand Corporation, November 1985.
- Kernam, William F., Lt. Col., USA. "The Holloway Report: Did It Reflect All the Facts and Lessons Learned?" Carlisle Barracks, PA: U.S. Army War College, 23 March 1987.
- Knox, Raymond O., Major, USAF. "The Terminal Strike Controller: The Weak Link in Close Air Support." Unpublished monograph. Fort Leavenworth, KS: SAMS, USACGSC, 14 November 1988.
- . "High Speed Jets In A Low Speed War: The Utility of Tactical Airpower In Low Intensity Conflict." Unpublished Monograph. Fort Leavenworth, KS: SAMS, USACGSC, Second Term 88-89.
- Landry, Alan D., Major, USA. "The Joint Lessons Learned System and Interoperability." Thesis. Fort Leavenworth, KS.: USACGSC, 2 June 1989.

- Lum, T. "Combatting Terrorism - A Response In Kind." Carlisle Barracks, PA: U.S. Army War College, 13 May 1987.
- Miller, Billy J., LTC, USA. "Requirements for a Light Combat Helicopter." Maxwell AFB, AL: Air War College, March 1986.
- Morland, Bruce T. "Covert Action As An Instrument of National Policy." Maxwell AFB, AL: Air War College, May 1986.
- Pearson, Craig H., Major, USA. "Joint Army Aviation/Air Force Deep Operations At Night: Is It Tactically Feasible and If So, How?" Unpublished monograph. Fort Leavenworth, KS: SAMS, USACGSC, 27 November 1985.
- Rivard, David T., Major, USAF. "An Analysis of Operation Urgent Fury." Maxwell AFB, AL: Air Command and Staff College, April, 1987.
- Schneider, Gary N., Lt. Col., USAF. "Airpower in Low Intensity Conflict." Maxwell AFB, AL: Air War College, May 1987.
- Smith, William C., LTC, USA. "The United States Needs Joint Warfighting Doctrine." Carlisle Barracks, PA: U.S. Army War College, April 1988.
- Terry, James P., Lt. Col., USMC. "Countering State Sponsored Terrorism: A Law Policy Analysis." Newport, RI: Naval War College, 30 May 1986.
- Trebon, Gregory L., Major, USAF. "Libyan State Sponsored Terrorism - What Did Operation El Dorado Canyon Accomplish?" Maxwell AFB, AL: Air Command and Staff College, April 1988.
- Walgamott, Cary M., Major, USAF. "Low Altitude - A New Dimension in Air Refueling." Maxwell AFB, AL: Air Command and Staff College, April 1988.

VIDEOTAPE

- The Achille Lauro: A Study in Terror (50 min) Chicago, IL: Films Incorporated, 1987.
- Operations Urgent Fury. (59 min) Alexandria, VA: Public Broadcasting System, 1987.